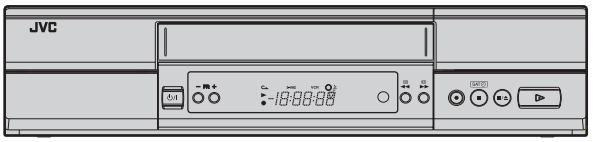
JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S5965ER,HR-S5967EK



VIDEO Plus+ (EK model)
SHOWVIEW® (ER model)
S-VHS 625
Hi-Fi
Super VHS ET

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).
Regarding service information other than these sections, refer to the service manutal No. 82961 (HR-S5965EF,HR-S5965EK).
Also, be sure to note iportant safety precautions provided in the service manual.

SPECIFICATION *(The specifications shown pertain specifically to the model HR-S5967EK)*

GENERAL

Power requirement	AC 220 V - 240 V~, 50 Hz/60 Hz
Power consumption	
Power on	16 W
Power off	3.5 W
Temperature	
Operating	5°C to 40°C
Storage	-20°C to 60°C
Operating position	Horizontal only
Dimensions (W x H x D)	400 mm x 94 mm x 270 mm
Weight	3.1 kg
Format	S-VHS/VHS PAL standard
Maximum recording time	
(SP)	240 min. with E-240 video cassette
(LP)	480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	DA4 (Double Azimuth) helical scan system
Signal-to-noise ratio	45 dB
Horizontal resolution	
VHS	250 lines
S-VHS	400 lines
Frequency range	
Normal audio	70 Hz to 10,000 Hz
Hi-Fi audio	20 Hz to 20,000 Hz
Input/Output	21-pin SCART connectors: IN/OUT x 1, IN x 1 RCA connectors:AUDIO OUT x 1

TUNER/TIMER

TV channel storage capacity	99 positions (+AUX position)
Tuning system	Frequency synthesized tuner
Channel coverage	
VHF	44.5 MHz - 143 MHz/143 MHz - 470 MHz
UHF	470 MHz - 862 MHz
Aerial output	UHF channels 22 - 69 (Adjustable)
Memory backup time	Approx. 10 min.

ACCESSORIES

Provided accessories : RF cable, Infrared remote control unit, Lithium battery - CR2032

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No.82983
2003/7

DIFFERENCE LIST

DIFFERENT TABLE OF FEATURE

The following table indicates main different points between models HR-S5965EF and HR-S5965ER.

ITEM	HR-S5965EF	HR-S5965ER
SCART CABLE	PROVIDED	OPTIONAL
VIDEO SYSTEM : VHS	PAL/MESECAM PB/SECAM /NTSCPB on PAL TV with HiFi /SECAM->PAL CONVERTER	PAL/MESECAMPB(AUTO/MANUAL)/ NTSC PB on PAL TV With HiFi /SECAM->PAL CONVERTER
BROADCASTING STANDARD	L,L',B/G	B/G,D/K
STEREO DECODER	NICAM(L,B/G)/A2(B/G)	NICAM/A2
RF OUT CH/RF OUT SYSTEM [INITIAL]	NOT USED	22-69CH, OFF[AUTO]/G,K
VPS	NOT USED	USED
OSD LANGUAGE	FRENCH	14 LANGUAGES

The following table indicates main different points between models HR-S5965EK and HR-S5967EK.

MODEL NAME	HR-S5965EK	HR-S5967EK
BODY COLOUR	PURE SILVER	PURE SILVER & DARK SILVER [WINDOW/L/R]

DIFFERENT TABLE OF PARTS LIST

The following table indicates main different parts number between models HR-S5965EF and HR-S5965ER.

PACKING AND ACCESSORY ASSEMBLY<M1>

⚠	REF NO.	ITEM	HR-S5965EF	HR-S5965ER
⚠	310	INST.BOOK(FRENCH)	LPT0773-001B	-
⚠	310	INST.BOOK(RUSSIAN)	-	LPT0791-001A
	312	RF CABLE	PEAC0300-02	QAM0505-001
	315	PERI CABLE	QAM0238-003	-
	317	WARRANTY CARD	BT-54008-4	BT-54012-3

FINAL ASSEMBLY<M2>

⚠	REF NO.	ITEM	HR-S5965EF	HR-S5965ER
⚠	501	FRONT PANEL ASSY	LP10452-025B	LP10452-031A
	501C	COVER(WINDOW)	LP21127-001B	LP21127-001A
	501D	WINDOW(1)	LP31188-015A	LP31188-002A
	501E	COVER(L)	LP31109-014A	LP31109-015A
	501G	STICKER (RIGHT SIDE)	LP41035-004A	LP41035-011A
	501H	STICKER(LEFT SIDE)	-	LP41035-003A
	WR4	FFC WIRE	QUQ112-1113CG	QUQ112-1115CG

Note:

Mark - is not used.

MAIN BOARD ASSEMBLY<03>

⚠	REF NO.	ITEM	HR-S5965EF	HR-S5965ER
	PW1	MAIN PWB ASSY	LPA10189-07C	LPA10189-09B
	IC3001	IC(MCU)	HD6432199RA89F	HD6432199RA87F
	or IC3001	IC(MCU)	HD64F2199RFA89	HD64F2199RFA87
	IC3003	IC(EEPROM)	LPN0787-005F-02	LPN0787-002B-03
	Q4	TRANSISTOR	2SA1576A/QR/-X	-
	Q6	TRANSISTOR	2SA1576A/QR/-X	-
	Q11	TRANSISTOR	2SA1576A/QR/-X	-
	Q13	DIGI TRANSISTOR	DTC144WUA-X	-
	Q15	TRANSISTOR	2SA1576A/QR/-X	-
	Q203	TRANSISTOR	2SD1819A/QRS/-X	-
	C51	C CAPACITOR/MG RESISTOR	NCB21EK-103X	NRSA02J-0R0X
	C66	C CAPACITOR	NCB21HK-103X	-
	C211	C CAPACITOR	NCB21HK-271X	-
	C217	C CAPACITOR	NCB21HK-103X	-
	C2218	E CAPACITOR	-	QEKJ1EM-106Z
	C2219	E CAPACITOR	-	QEKJ1CM-226Z
	C3025	TRIM CAPACITOR,TIMER CLOCK	-	QAT3725-300Z
	C3041	C CAPACITOR	NDC21HJ-180X	-
	C6014	C CAPACITOR	-	NCB21HK-103X
	C6016	C CAPACITOR	-	NCB21HK-103X
	C6020	C CAPACITOR	NDC21HJ-101X	-
	C6021	C CAPACITOR	NDC21HJ-101X	-
	C6032	C CAPACITOR	-	NCB21EK-473X
	C6724	E CAPACITOR	QEKJ1HM-225Z	-
	B4	MG RESISTOR	-	NRSA02J-0R0X
	B5	MG RESISTOR	-	NRSA02J-0R0X
	B6051	MG RESISTOR	-	NRSA02J-0R0X
	R17	MG RESISTOR	NRSA02J-681X	-
	R23	MG RESISTOR	NRSA02J-152X	-
	R24	MG RESISTOR	NRSA02J-102X	-
	R26	MG RESISTOR	NRSA02J-103X	-
	R28	MG RESISTOR	NRSA02J-0R0X	-
	R29	MG RESISTOR	NRSA02J-223X	-
	R30	MG RESISTOR	NRSA02J-223X	-
	R206	C RESISTOR	QRE141J-102Y	-
	R2216	MG RESISTOR	-	NRSA02J-122X
	R2217	MG RESISTOR	-	NRSA02J-472X
	R6032	MG RESISTOR	NRSA02J-183X	NRSA02J-472X
	R6033	MG RESISTOR	NRSA02J-183X	NRSA02J-182X
	R6050	MG RESISTOR	-	NRSA02J-101X
	R6051	MG RESISTOR	-	NRSA63J-101C
	R6052	MG RESISTOR	-	NRSA02J-101X
	R6056	MG RESISTOR	-	NRSA02J-101X
	TU6001	TUNER	QAU0266-001	QAU0261-002
	K6707	FERRITE BEADS	NQR0200-003X	-
	L205	INDUCTOR	QQL071J-5R6Y	-
	L6502	P COIL/IM BUS WIRE	QQL29BJ-3R3Z	QUY153-050Y

Note:
Mark - is not used.

The following table indicates main different parts number between models HR-S5965EK and HR-S5967EK.

FINAL ASSEMBLY<M2>

⚠	Symbol No.	ITEM	HR-S5965EK	HR-S5967EK
⚠	501	FRONT PANEL ASSY	LP10452-022B	LP10452-041A
	501C	COVER(WINDOW)	LP21127-001B	LP21127-006B
	501E	COVER(L)	LP31109-011A	LP31109-016A
	501F	COVER(R)	LP30877-003A	LP30877-005A

SECTION 3
ADJUSTMENT

3.3.3 Syscon circuit [ER MODEL]

Notes:

- **When perform this adjustment, remove the Mechanism assembly.**

3.3.3.1 Timer clock

Signal	(A1)	• No signal
Mode	(B)	• EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC3001 pin 44
	(D2)	• IC3001 pin 103
	(D3)	• C3054 + and -
Adjustment part	(F)	• C3025 (TIMER CLOCK)
Specified value	(G1)	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 usec)

(1) Connect the frequency counter to the measuring point (D1).
(2) Connect the short wire between the short point (D2) and Vcc (5V).
(3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the Syscon.
(4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
(5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

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AV & MULTIMEDIA COMPANY VIDEO RECORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.82983)

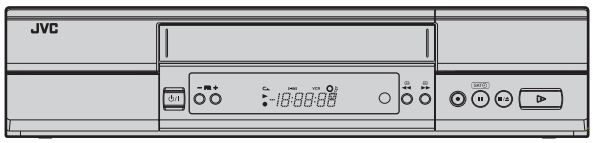
Printed in Japan
WPC

JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S5960Ex,HR-S5961Ex, HR-S5962Ex,HR-S5963Ex, HR-S5965EF,HR-S5965EK, HR-S5966EK



VIDEO Plus+ (EK model)
SHOWVIEW (other model)
S-VHS
Hi-Fi
Super VHS ET

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).

SPECIFICATION *(The specifications shown pertain specifically to the model HR-S5960EX,S5961EX,S5962EX,S5963EX)*

GENERAL

Power requirement	AC 220 V - 240 V~, 50 Hz/60 Hz
Power consumption	
Power on	16 W
Power off	3.5 W
Temperature	
Operating	5°C to 40°C
Storage	-20°C to 60°C
Operating position	Horizontal only
Dimensions (W x H x D)	400 mm x 94 mm x 270 mm
Weight	3.1 kg
Format	S-VHS/VHS PAL standard
Maximum recording time	
(SP)	240 min. with E-240 video cassette
(LP)	480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	45 dB
Horizontal resolution	
VHS	250 lines
S-VHS	400 lines
Frequency range	
Normal audio	70 Hz to 10,000 Hz
Hi-Fi audio	20 Hz to 20,000 Hz
Input/Output	21-pin SCART connectors: IN/OUT x 1, IN/DECODER x 1RCA connectors:AUDIO OUT x 1

TUNER/TIMER

TV channel storage capacity	99 positions (+AUX position)
Tuning system	Frequency synthesized tuner
Channel coverage	
VHF	47 MHz - 89 MHz/104 MHz - 300 MHz/302 MHz - 470 MHz
UHF	470 MHz - 862 MHz
Aerial output	UHF channels 22 - 69 (Adjustable)
Memory backup time	Approx. 10 min.

ACCESSORIES

Provided accessories	: RF cable, Infrared remote control unit, Lithium battery - CR2032-

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No.82961
2003/4

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The following table indicates main different points between models HR-S5960EX,HR-S5961EX,HR-S5962EX, HR-S5963EX,HR-S5963EX,HR-S5965EF,HR-S5965EK and HR-S5966EK.

MODEL / ITEM	HR-S5960EX	HR-S5961EX	HR-S5962EX	HR-S5963EX	HR-S5965EF	HR-S5965EK	HR-S5966EK
POWER PLUG	CEE	←	←	←	←	3PIN	←
BODY COLOUR	PURE SILVER	BLACK	PURE SILVER & DARK SILVER[WINDOW & CASSETTE DOOR]	PURE SILVER & DARK SILVER[WINDOW & L/R COVER]	PURE SILVER	←	BLACK
RCU COLOUR	LIGHT GRAY	BLACK	LIGHT GRAY	←	←	←	BLACK
SCART CABLE	OPTIONAL	←	←	←	PROVIDED	OPTIONAL	←
MESECAM	USED(MANUAL)	←	←	←	USED(PB ONLY)	NOT USED	←
DECODER(L-2)	USED	←	←	←	←	NOT USED	←
BROADCASTING STANDARD	B/G,D/K	←	←	←	L,L',B/G	I	←
STEREO DECODER	NICAM/A2	←	←	←	NICAM(L,B/G)/ A2(B/G)	NICAM	←
RF OUT	USED	←	←	←	NOT USED	USED	←
VCR PLUS+	SHOWVIEW	←	←	←	←	VIDEO PLUS+	←
VPS	USED	←	←	←	NOT USED	←	←
OSD LANGUAGE	13 LANGUAGES	←	←	←	FRENCH	ENGLISH	←

NOTE:
Mark ← is same as left.

SECTION 1
PRECAUTIONS

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold.However,in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

(1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product.When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

(2) Parts identified by the ⚠symbol and shaded ( ) parts are critical for safety.
Replace only with specified part numbers.
NOTE :
Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

(3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

(4) Use specified internal wiring. Note especially:
- Wires covered with PVC tubing
- Double insulated wires
- High voltage leads

(5) Use specified insulating materials for hazardous live parts. Note especially:
- Insulation Tape
- PVC tubing
- Spacers
- Insulation sheets for transistors
- Barrier

(6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

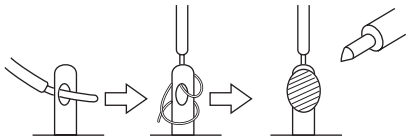


Fig.1-1-1

(7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

(8) Check that replaced wires do not contact sharp edged or pointed parts.

(9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

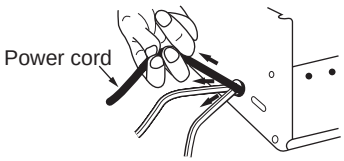


Fig.1-1-2

(10) Also check areas surrounding repaired locations.

(11) Products using cathode ray tubes (CRTs)In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

(12) Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power trans former primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**
  a) Remove the old connector by cutting the wires at a point close to the connector.
  Important : Do not reuse a connector (discard it).

Fig.1-1-3

  b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

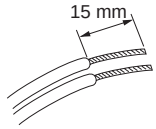


Fig.1-1-4

  c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

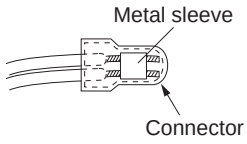


Fig.1-1-5

  d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

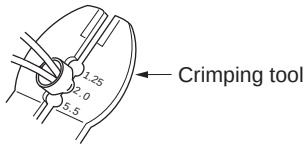


Fig.1-1-6

  e) Check the four points noted in Fig.1-1-7.

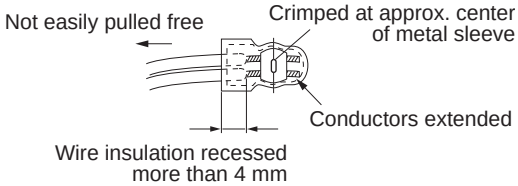

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
See table 1 below.

(2) Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

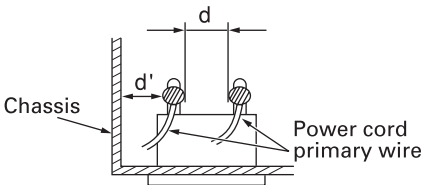


Fig.1-1-8

(4) Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)
Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

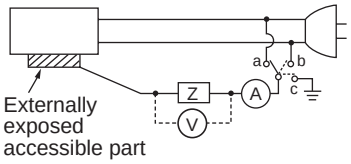
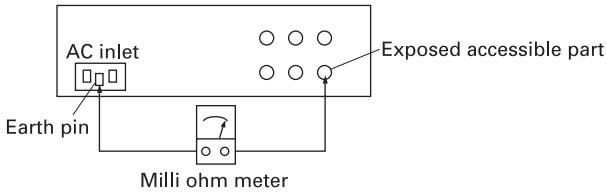


Fig.1-1-9

(5) Grounding (Class 1 model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Fig.1-1-12

NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 Manually removing the cassette tape

If you cannot remove the cassette tape which is loaded because of any electrical or mechanical failures, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.

(2) Refer to the disassembly procedure of the VCR and perform the disassembly of the major parts before removing the mechanism assembly. (See Fig. 2-1a)

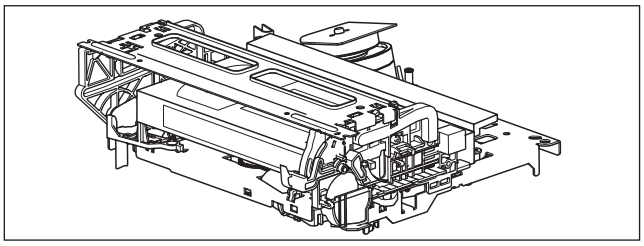


Fig.2-1a

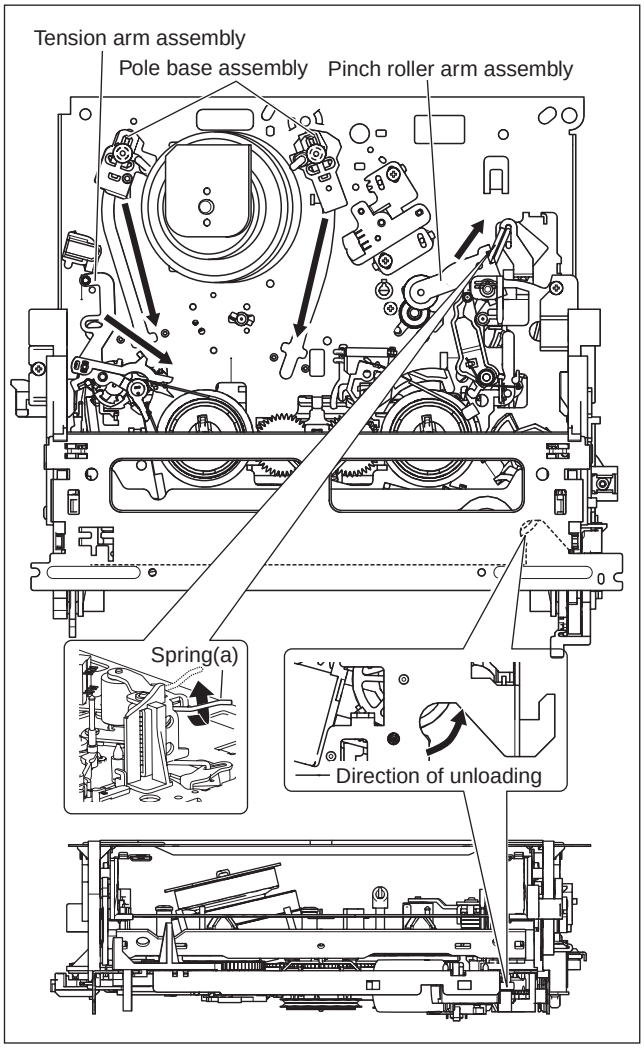


Fig.2-1b

(3) Unload the pole base assembly by manually turning the gear of the loading motor until the pole base assembly is hidden behind the cassette lid. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1b)

In case of mechanical failures, while keeping the tension arm assembly free from tension, pull out the tape on the pole base assembly. Take the spring(a) of the pinch roller arm assembly off the hook, and detach it from the tape.

(4) Remove the screw (a) of the side frame (L/R).

(5) Hold the slack tape and cassette cover together, lift the cassette tape, top frame, cassette holder and side frames (L, R) together from the rear and remove them by dis-engaging the hooks (a) and (b).

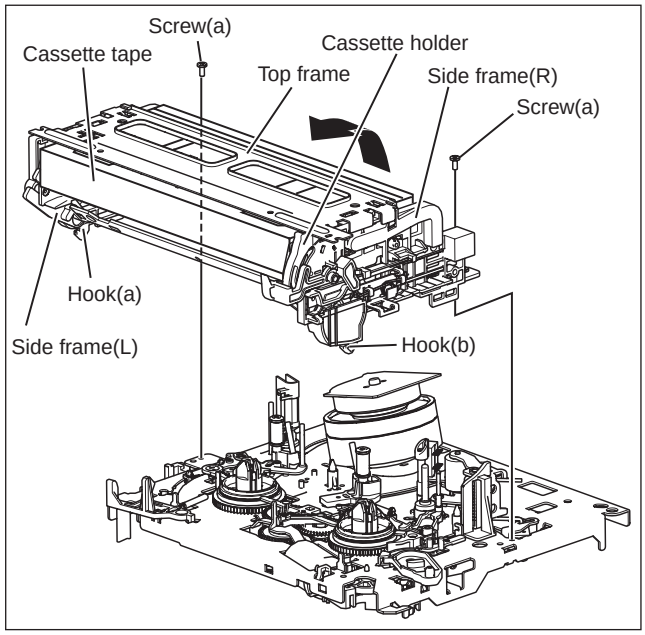


Fig.2-1c

(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

2.2 Removing the major parts

2.2.1 How to read the procedure table

This table shows the steps for disassembly of the externally furnished parts and board assemblies. Reverse these steps when re-assembling them.

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover	1-3a	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a),(W1a), CN1(WR1a),	<Note 1a>
	Bracket		2(S1c)	

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order.
These numbers are also used as the identification (location) No. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig. No. showing procedure or part location.

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:
- **The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.**

(5) Adjustment information for installation

2.2.2 Disassembly procedure

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover	2-2-2d	4(S1a),(S1b)	
[2]	Front panel assembly	2-2-2d 2-2-2a	2(S2a), 6(L2a), 3(L2b)	<Note 2a>
[3]	Mechanism assembly	2-2-2d	CN2001(WR3a), (S3a), (S3b)	<Note 3a> <Note 3b>
	(Drum assembly)	2-2-2b 2-2-2c	CN1(WR3b), (S3c), (S3d), (S3e),	<Note 3c> <Note 3d>
	(Inertia plate)		4(L3a)	
	(Roller arm assembly)		(P3a),(L3b)	
[4]	[HR-S5965EF] S-P Converter board assembly	2-2-2d	CN1601(WR4a) 2(S4a),(L4a)	
[5]	Main board assembly	2-2-2d	(S5a), 3(S5b),6(L5a)	
[6]	Bottom cover	2-2-2d	3(L6a), 5(L6b), 2(L6c)	

<Note 2a>
- When reattaching the Front panel assembly, make sure that the door opener of the Side frame (R) is lowered in position prior to the reinstallation.
- When reattaching the Front panel assembly, pay careful attention to the switch lever of the Front panel assembly not to make it touch the switch knob of the Main board assembly from the side.
- When reattaching the Front panel assembly, lift the Cassette door slightly.

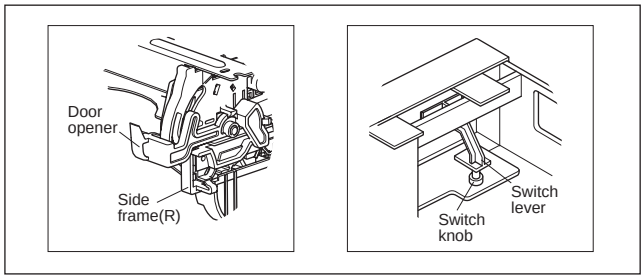


Fig.2-2-2a

<Note 3a>
- Be careful not to damage the connector and wire etc. during connection and disconnection.
- When connecting the flat wire to the connector, be careful with the flat wire direction.

<Note 3b>
- When reattaching the Mechanism assembly, secure the screws (S3a to S3b) in the order of a, b.

<Note 3c>
- When reattaching the Mechanism assembly, be sure to align the phase of the Rotary encoder on the Main board assembly.
- When reattaching the Mechanism assembly, set the “Mechanism assembling mode”. [See “MECHANISM ASSEMBLY SERVICE MANUAL (No. 86700)”.]
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors and switch on the Main board assembly.

<Note 3d>
- When reattaching the Drum assembly, secure the screws (S3c to S3e) in the order of c, d, e.

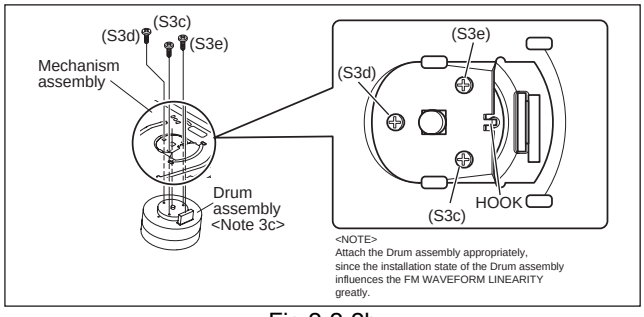


Fig.2-2-2b

- When handling the drum assembly alone, hold it by the motor or shaft. Be careful not to touch other parts, especially the video heads. Also take care not to damage the connectors.

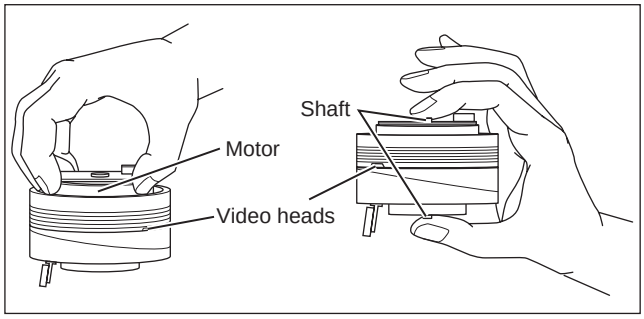


Fig.2-2-2c

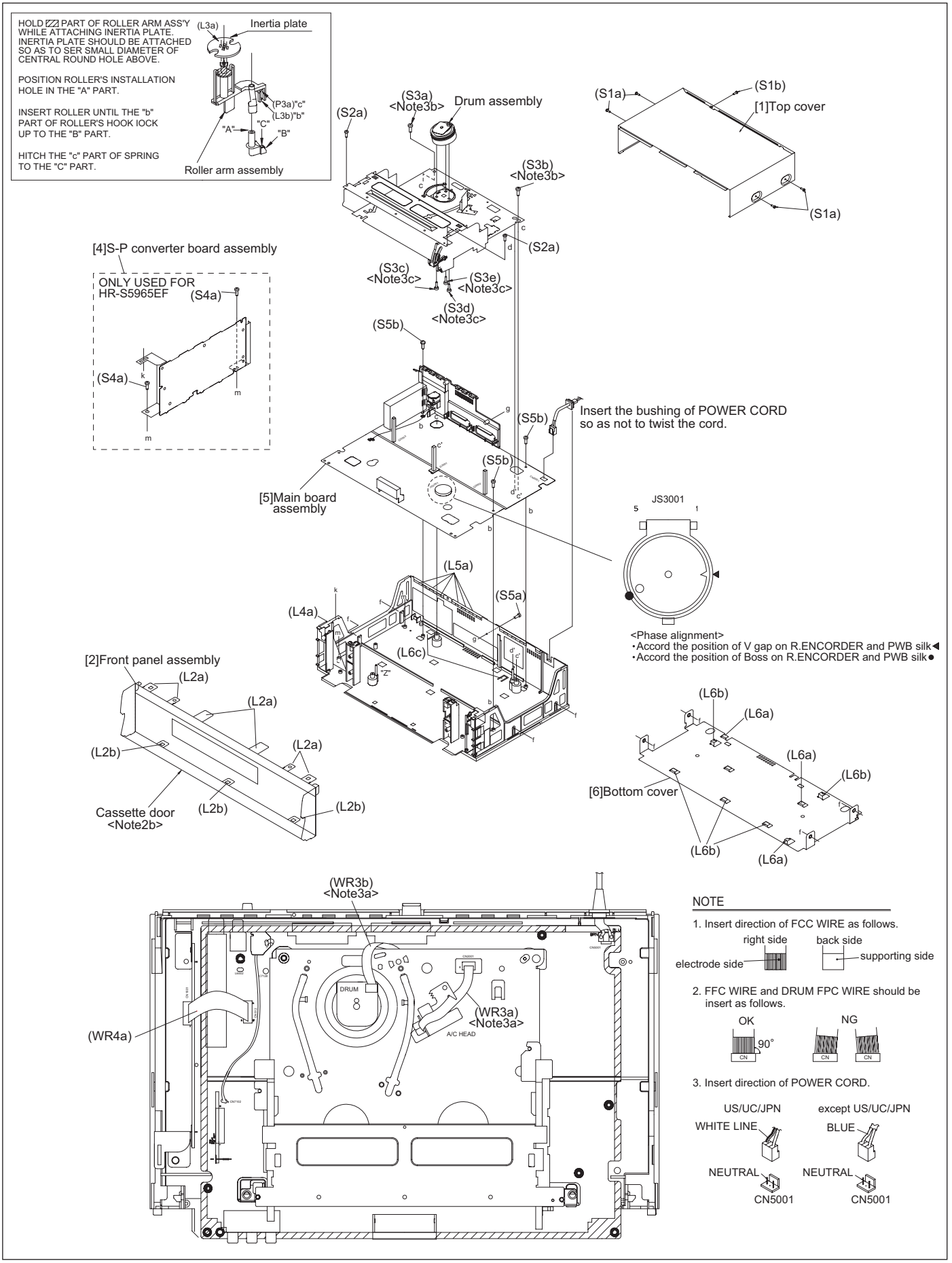

HOLD ▨ PART OF ROLLER ARM ASS'Y WHILE ATTACHING INERTIA PLATE.
INERTIA PLATE SHOULD BE ATTACHED SO AS TO SER SMALL DIAMETER OF CENTRAL ROUND HOLE ABOVE.
POSITION ROLLER'S INSTALLATION HOLE IN THE "A" PART.
INSERT ROLLER UNTIL THE "b" PART OF ROLLER'S HOOK IOCK UP TO THE "B" PART.
HITCH THE "c" PART OF SPRING TO THE "C" PART.
(L3a)
Inertia plate
(P3a)"c"
(L3b)"b"
"A"
"C"
"B"
Roller arm assembly
(S3a) <Note3b>
Drum assembly
(S2a)
(S3b) <Note3b>
(S2a)
(S3c) <Note3c>
(S3e) <Note3c>
(S3d) <Note3c>
(S1a)
(S1b)
[1]Top cover
(S1a)
[4]S-P converter board assembly
ONLY USED FOR HR-S5965EF
(S4a)
(S4a)
(S5b)
(S5b)
Insert the bushing of POWER CORD so as not to twist the cord.
(S5b)
[5]Main board assembly
JS3001
5
1
(L5a)
(S5a)
(L4a)
(L6c)
"Z"
<Phase alignment>
・Accord the position of V gap on R.ENCORDER and PWB silk◀
・Accord the position of Boss on R.ENCORDER and PWB silk●
[2]Front panel assembly
(L2a)
(L2a)
(L2a)
(L2b)
Cassette door <Note2b>
(L2b)
(L2b)
(L6b)
(L6a)
(L6a)
(L6b)
[6]Bottom cover
(L6b)
(L6a)
(WR3b) <Note3a>
(WR4a)
DRUM
(WR3a) <Note3a>
A/C HEAD
NOTE
1. Insert direction of FCC WIRE as follows.
right side
back side
electrode side
supporting side
2. FFC WIRE and DRUM FPC WIRE should be insert as follows.
OK
NG
90°
CN
CN
CN
3. Insert direction of POWER CORD.
US/UC/JPN
except US/UC/JPN
WHITE LINE
BLUE
NEUTRAL
NEUTRAL
CN5001
CN5001

Fig.2-2-2d

2.3 Emergency display function

This unit saves details of the last two emergencies as the EMG history and allows the status of the VCR and the mechanism of each emergency to be shown both on the display and as OSD information.
When using the emergency function, it is required to set the VCR to the Jig RCU mode (Refer to 2.5 Jig RCU mode).

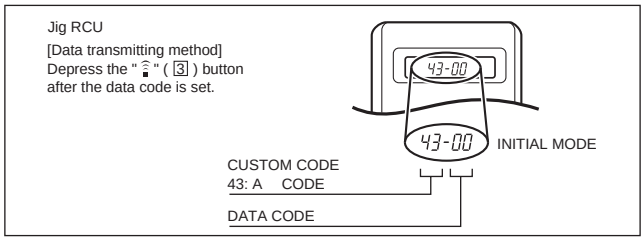


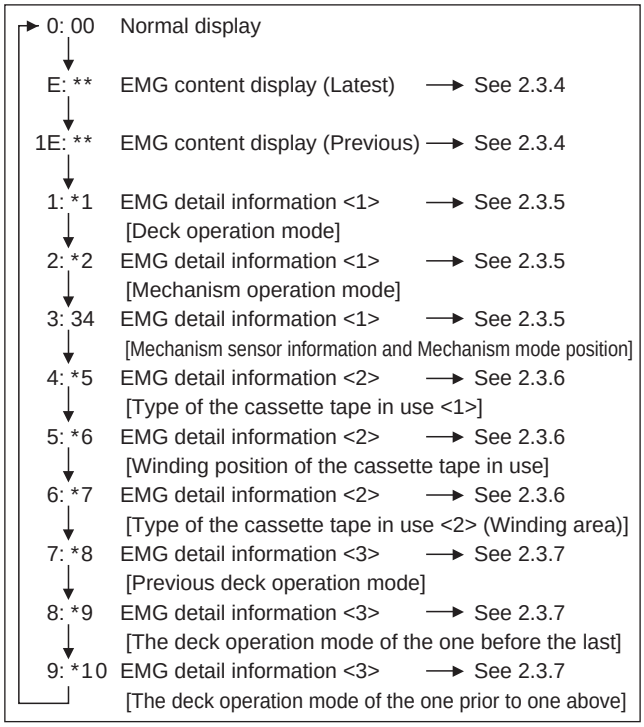
Fig.2-3a

2.3.1 Displaying the EMG information

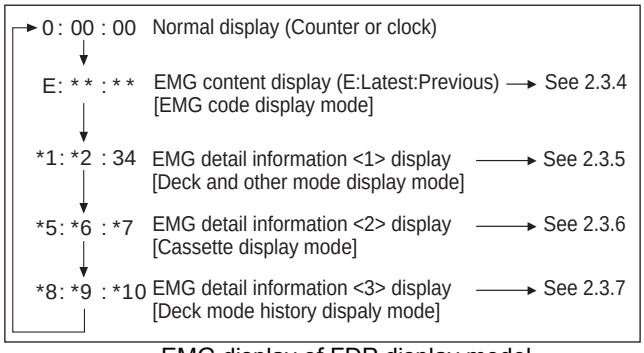
The EMG detail of information can be displayed by transmitting the code "59" from the Jig RCU.

Note:

- **The EMG detail information <1><2> show the information on the latest EMG.**
  It becomes " – – : – – : – –" when there is no latest EMG record.


0: 00 Normal display
E: ** EMG content display (Latest) → See 2.3.4
1E: ** EMG content display (Previous) → See 2.3.4
1: *1 EMG detail information <1> → See 2.3.5
[Deck operation mode]
2: *2 EMG detail information <1> → See 2.3.5
[Mechanism operation mode]
3: 34 EMG detail information <1> → See 2.3.5
[Mechanism sensor information and Mechanism mode position]
4: *5 EMG detail information <2> → See 2.3.6
[Type of the cassette tape in use <1>]
5: *6 EMG detail information <2> → See 2.3.6
[Winding position of the cassette tape in use]
6: *7 EMG detail information <2> → See 2.3.6
[Type of the cassette tape in use <2> (Winding area)]
7: *8 EMG detail information <3> → See 2.3.7
[Previous deck operation mode]
8: *9 EMG detail information <3> → See 2.3.7
[The deck operation mode of the one before the last]
9: *10 EMG detail information <3> → See 2.3.7
[The deck operation mode of the one prior to one above]

EMG display of 7segment LED display model
Fig.2-3-1b


0 : 00 : 00 Normal display (Counter or clock)
E: * * : * * EMG content display (E:Latest:Previous) → See 2.3.4
[EMG code display mode]
*1: *2 : 34 EMG detail information <1> display → See 2.3.5
[Deck and other mode display mode]
*5: *6 : *7 EMG detail information <2> display → See 2.3.6
[Cassette display mode]
*8: *9 : *10 EMG detail information <3> display → See 2.3.7
[Deck mode history dispaly mode]

EMG display of FDP display model
Fig.2-3-1c

<Reference> EMG display of FDP display mode

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E:**:**".

<Example 1> E : 01 : 03
Previous EMG
Latest EMG

<Example 2> E : - - : - - ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the EMG detail information <1> in the form of " *1: *2 : 34 ".

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " *5 : *6 : *7 ".

*5 : Type of the cassette tape in use <1> .
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <3> in the form of "*8 : *9 : *10".

*8 : Previous deck operation mode at the moment of EMG
*9 : The deck operation mode of the one before the last at the moment of EMG
*10: The deck operation mode of the one prior to one above at the moment of EMG

(5) Transmit the code "59" from the Jig RCU once again to reset the display.

2.3.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code “36” from the Jig RCU.
(3) Reset the EMG display.

2.3.3 Details of the OSD display in the EMG display mode

During the EMG display, the OSD shows the data on the deck mode, etc. The details of the display contents are as follows.

Notes:

- **The display is variable depending on the part No. of the System Control microcomputer (IC3001) built into the VCR. In the following, refer to the figure carrying the same two characters as the top two characters of the part number of your IC.**
- **The sensor information in the OSD display contents is partially different from the mechanism sensor information in EMG detail information <1>.**

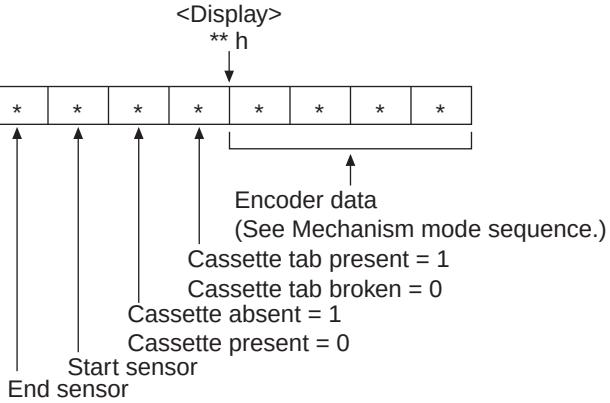
[For MN* only]

AA	BB	CC	DD	EE
FF	GG	HH	I I	J J
KK	L L	MM	NN	OO
PP	QQ	RR	SS	TT
UU	VV	WW	XX	YY

AA : Deck operation mode (See EMG detail information <1>.)
BB : Mechanism operation mode (See EMG detail of information <1>.)
CC : Mechanism transition flag
DD : Capstan motor control status
EE : Loading motor control status
FF : Sensor information (See sensor information details.)
GG : Capstan motor speed
HH : Key code (JVC code)
I I : Supply reel winding diameter data, higher 8 bits.
JJ : Supply reel winding diameter data, lower 8 bits.
KK : Mechanism sensor information & mechanism mode position(See EMG detail of information <1>.)
LL : Tape speed data, higher 8 bits.
MM : Tape speed data, lower 8 bits.
NN : Cassette tape type <2>, higher 8 bits. (See EMG detail of information <2>.)
OO : Cassette tape type <2>, lower 8 bits. (See EMG detail of information <2>.)
PP : General data display area

YY: General data display area

***FF:Sensor information details**

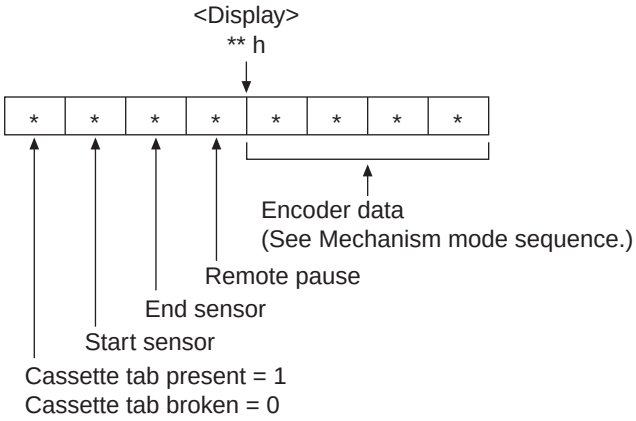


[For *HD only]

AA	BB	CC
DD	EE	FF
GGGG	HHHH	
I I	J J J J	
KKKK	L L L L	MMMM
ROM No.		

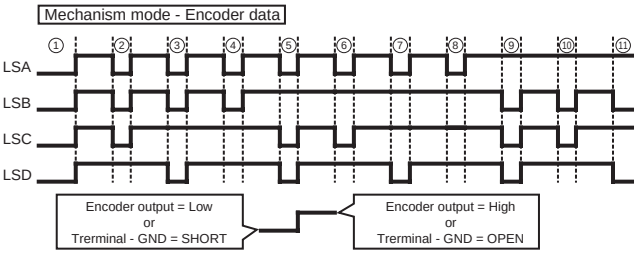
AA : Key code (JVC code)
BB : Deck operation mode(See EMG detail information <1>.)
CC : Mechanism operation mode (See EMG detail information <1>.)
DD : Sensor information (See sensor information details.)
EE : Capstan motor speed (Search, double speed)
FF : Tracking value
GGGG : Cassette tape type <2>, 16 bits. (See EMG detail information <2>.)
HHHH : Supply reel winding diameter data
I I : Capstan motor speed (FF/REW, double speed)
JJJJ : Tape speed data, lower 8 bits.
KKKK : General data display area
LLLL : General data display area
MMMM : General data display area

***DD:Sensor information details**

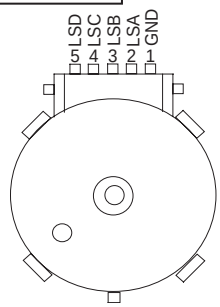


[For both MN*/HD*]

Mechanism mode sequence



No.	Position	Encoder data
①	EJECT	0 h = 0000
②	EJECT1	1 h = 0001
③	EJECT2	2 h = 0010
④	ULSTOP	3 h = 0011
⑤	UPPER	4 h = 0100
⑥	ONSTOP(PLAY)	5 h = 0101
⑦	FWD/SS	6 h = 0110
⑧	REV/SS	7 h = 0111
⑨	OFFSTOP	8 h = 1000
⑩	FFREW-BRAKE	9 h = 1001
⑪	FFREW	A h = 1010
⑫	MIDDLE	F h = 1111



2.3.4 EMG content description

Note:

EMG contents “E08/E09” are for the model with Dynamic Drum (DD).

FDP	CONTENT	CAUSE
E01: Loading EMG	If the mechanism mode does not change to the next mode within 4 seconds after the loading motor starts rotating in the loading direction, while the mechanism is in the after-loading position (with the tape up against the pole base), [E:01] is identified and the power is switched OFF. However, if the tape loading is not completed within 4 seconds after the loading motor starts rotating in the loading direction, the tape is simply unloaded and ejected. No EMG data is recorded in this case.	1. The mechanism is locked in the middle of the mode transition during a tape loading operation. 2. The mechanism overruns during the tape loading operation because the SYSCON cannot recognize the mechanism mode normally. This problem is due to a cause such as a rotary encoder failure. 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. Without an eject signal being sent from the SYSCON, unloading is attempted (i.e. Ejection is attempted while the tape is still inside the mechanism.) because the SYSCON cannot recognize the mechanism mode normally. This is due to a cause such as a rotary encoder failure. (Mechanism position: UPPER) 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E03: Take Up Reel Pulse EMG	When the falling edje of the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. In this case, however, the mechanism should be in position after tape loading. Note that the reel EMG is not detected during Slow/Frame advance operations.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear because the mechanism mal-functions for some reason. 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The reel is rotating normally but an FG pulse is not generated due to the take-up reel sensor failure. 2. The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear because the mechanism mal-functions for some reason. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The reel rotates normally but the FG pulse is not generated due to a supply reel sensor failure. 3. Power(SW5V) is not supplied to the reel sensor on the tape winding side.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power (M12V) is not supplied to the drum MDA.
E05: Cassette Eject EMG	If the cassette does not reach the eject position within about 0.7 seconds after the cassette housing has started the cassette ejection operation, [E:05] is identified, the drive direction is reversed to load the tape, the mode is switched to STOP mode with the pinch roller OFF, and the power is switched OFF. During the cassette insertion process, the drive direction is reversed and the cassette is ejected if the tape is not up against the pole base within about 3 seconds after the start of the cassette pulling-in operation. If the cassette does not reach the eject position within about 0.7 seconds after the drive mode reversal operation, [E:05] is identified and the power is switched OFF immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power (M12V) is not supplied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in SLOW/STILL modes. Note that, if the part number of the System Control IC begins with "MN" or "M3", the capstan EMG is not detected even during the FF/REW operation.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power (M12V, SW5V) are not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	1. The absolute value sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. 4. The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power (5V) to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the falling edge of the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). In this case, however, the mechanism should be in the position after tape loading (with the tape up against the pole base). Also note that the reel EMG is not detected during Slow/Frame advance operations.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The reel is rotating normally but the FG pulse is not generated due to a supply reel sensor failure. 2. The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the take up will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The reel is rotating normally but the FG pulse is not generated due to a take-up reel sensor failure. 3. The power (SW 5V) to a reel sensor is not supplied.
EU1: Head clog warning history	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which the head clog is detected, the FDP shows "U:01" and the OSD repeats the "3 seconds of warning display" and the "7 seconds of noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

2.3.5 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display] *1 : *2 : 34

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

Note:

- **For EMG detailed information <1>, the content of the code that is shown on the display (or OSD) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR. The system control microprocessor parts number starts with two letters, refer these to the corresponding table.**

***1 : Deck operation mode**

[Common table of MN* and HD]

Display		Deck operation mode
MN*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY (Normal playback)
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SPx7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SPx7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**

[Table of MN*]

Display	Mechanism operation mode
00	Command standby (No command to be executed)
01	Immediate Power OFF after EMG occurrence
02	Loading from an intermediate position during mechanism initialization
03	Unloading due to EMG occurrence during mechanism initialization
04	Ejecting cassette (ULSTOP to EJECT)
05	Inserting cassette (EJECT to ULSTOP)
06	Loading tape (ULSTOP to PLAY)
07	Unloading tape (PLAY to ULSTOP)
08	Transition from pinch roller ON to STOP
09	Transition from pinch roller OFF to STOP (PLAY to OFFSTOP)
0A	Transition from pinch roller OFF to STOP at power OFF
0B	Transition from pinch roller ON to STOP at power ON
0C	Transition to PLAY
0D	Transition to Search FF
0E	Transition to REC
0F	Transition to FWD STILL/SLOW
10	Transition to REV STILL/SLOW
11	Transition to Search REV
12	Transition from FF/REW to STOP
13	Transition to FF
14	Transition to REW
15	Tape end detection processing during loading
16	Short FWD/REV at tape sensor ON during unloading
17	Transition to FF/REW brake mode

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY (Normal playback)
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)
FF	Tape being unloaded

3- : Mechanism sensor information

[Common table of MN* and HD*]

Display	Mechanism sensor informatio n			
	REC safety SW	Start sensor	End sensor	Mechansim position sensor
0-	Tab broken	ON	ON	ON
1-	Tab broken	ON	ON	OFF
2-	Tab broken	ON	OFF	ON
3-	Tab broken	ON	OFF	OFF
4-	Tab present	OFF	ON	ON
5-	Tab present	OFF	ON	OFF
6-	Tab present	OFF	OFF	ON
7-	Tab present	OFF	OFF	OFF
8-	Tab broken	ON	ON	ON
9-	Tab broken	ON	ON	OFF
A-	Tab broken	ON	OFF	ON
B-	Tab broken	ON	OFF	OFF
C-	Tab present	OFF	ON	ON
D-	Tab present	OFF	ON	OFF
E-	Tab present	OFF	OFF	ON
F-	Tab present	OFF	OFF	OFF
	Tab broken = 0 Tab present = 1	Sensor ON = 0 sensor OFF = 1	Sensor ON = 0 Sensor OFF = 1	

-4 : Mechanism mode position

[Common table of MN* and HD*]

Mechanism sensor information	Dis-play	Deck operation mode	
Even number (0, 2, 4, 6, 8, A, C, E)	-0	Not established	
	-1	EJECT	EJECT position
	-2	EJECT-EJECT1	Intermodal position
	-3	EJECT1	EJECT1 position
	-4	EJECT1-EJECT2	Intermodal position
	-5	EJECT2	EJECT2 position
	-6	EJECT2-ULSTOP	Intermodal position
	-7	ULSTOP	ULSTOP position
	-8	ULSTOP-UPPER	Intermodal position
	-9	UPPER	Loading (unloading) tape
	-A	UPPER-ONSTOP	Intermodal position
	-B	ONSTOP	PLAY position
	-C	PLAY-FWD/SS	Intermodal position
	-D	FWD/SS	FWD (FWD Still/Slow) position
	-E	FWD/SS-REV	Intermodal position
	-F	REV	REV (REV Still/Slow) position
Odd number (1, 3, 5, 7, 9, B, D, F)	-0	REV-OFFSTOP	Intermodal position
	-1	OFFSTOP	Pinch roller OFF position
	-2	OFFSTOP-FFREWB	Intermodal position
	-3	FFREWB	FF/REW Brake position
	-4	FFREWB-FFREW	Intermodal position
	-5	FFREW	FF/REW position

2.3.6 EMG detail information <2>

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information <2> .

Note:

- **EMG detail information <2> is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.**

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- **Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.**
- **If other value than those listed in the above table is displayed, the cassette tape type is not identified.**

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 21 sections using a hex number from “00” to “14”.

“00” : End of winding
“14” : Beginning of winding
“FF” : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>		(Reference) Word data (Beginning) (End)
00	Cassette type not identified		
04 - 08	C cassette, thick tape	TC-10	(0497 - 0506) (0732 - 0858)
05 - 06	Small reel, thick tape	T-20	(05A9 - 0661)
05 - 0C	C cassette, thick tape	TC-20P	(0599 - 05FF) (0AA1 - 0C07)
06 - 0C	C cassette, thin tape	TC-40	(0623 - 063D) (0C41 - 0CC3)
06 - 0C	C cassette, thin tape	TC-30	(0611 - 0638) (0C0C - 0CB2)
07 - 08	Small reel, thick tape	T-40	(07CC - 08E5)
09 - 0B	Small reel, thick tape	T-60	(09FD - 0B78)
0C - 0D	Small reel, thick tape	T-80(DF-160)	(0C20 - 0DFC)
0D - 0F	Small reel, thick tape	T-90(DF-180)	(0D31 - 0F3E)
0E - 10	Small reel, thick tape	T-100	(0E43 - 107F)
10 - 12	Small reel, thin tape	T-140	(10E1 - 120C)
10 - 13	Small reel, thick tape	T-120(DF-240)	(1073 - 1313)
11 - 14	Small reel, thick tape	T-130	(1185 - 1429)
12 - 14	Small reel, thin tape	T-160	(12D3 - 141F)
13 - 14	Small reel, thin tape	T-210(DF-420)	(1373 - 14C3)
13 - 14	Small reel, thin tape	T-180(DF-360)	(1357 - 14C0)
13 - 14	Small reel, thin tape	T-168	(1395 - 14EE)
13 - 14	Small reel, thick tape	DF-300	(13A8 - 14CE)
15 - 16	Large reel	T-20	(1536 - 1618)
16 - 17	Large reel	T-30	(1647 - 175A)
17 - 18	Large reel	T-40	(1759 - 189C)
19 - 1B	Large reel	T-60	(1989 - 1B2F)

Note:

- **The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.**

2.3.7 EMG detail information <3>

Three deck operation modes preceding the deck operation mode in which the EMG occurs may be confirmed based on the figures in the EMG information detail <3>. For the contents of the displayed information, see the table "Deck operation mode" in section "2.3.6 EMG detail information <1>".

2.4 Service position

This unit has been designed so that the Mechanism and Main board assemblies can be removed together from the chassis assembly. Before diagnosing or servicing the circuit boards, take out the major parts from the chassis assembly.

2.4.1 How to set the "Service position"

(1) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the Mechanism assembly.
(2) Remove the screws that fix the Mechanism assembly to the Chassis assembly. If any other screws are used to fix the boards, remove them also.
(3) Remove the combined Mechanism and Main board assemblies.
(4) If any other major parts are used, remove them also.
(5) Connect the wires and connectors of the major parts that have been removed in steps (1) to (4). (Refer to Fig. 2-4-1a.)
(6) Place the combined Mechanism, Main board and other board assemblies upside down.
(7) Insert the power cord plug into the power outlet and then proceed with the diagnostics and servicing of the board assembly.

Notes:

- **Before inserting the power cord plug into the power outlet, make sure that none of the electrical parts are able to short-circuit between the workbench and the board assembly.**
- **For the disassembly procedure of the major parts and details of the precautions to be taken, see "2.2 Removing the major parts".**
- **If there are wire connections from the Main board and Mechanism assemblies to the other major parts, be sure to remove them (including wires connected to the major parts) first before performing step (2).**
- **When carrying out diagnosis and repair of the Main board assembly in the "Service position", be sure to ground both the Main board and Mechanism assemblies. If they are improperly grounded, there may be noise on the playback picture or FDP counter display may move even when the mechanism is kept in an inoperative status.**
- **In order to diagnose the playback or recording of the cassette tape, set the Mechanism assembly to the required mode before placing it upside down. If the mechanism mode is changed (including ejection) while it is in an upside down position the tape inside may be damaged.**
- **For some models, the mechanism and board assemblies are attached by connectors only. When carrying out a diagnosis or repair of the boards in the "Service position", make sure that the connectors are not disconnected.**

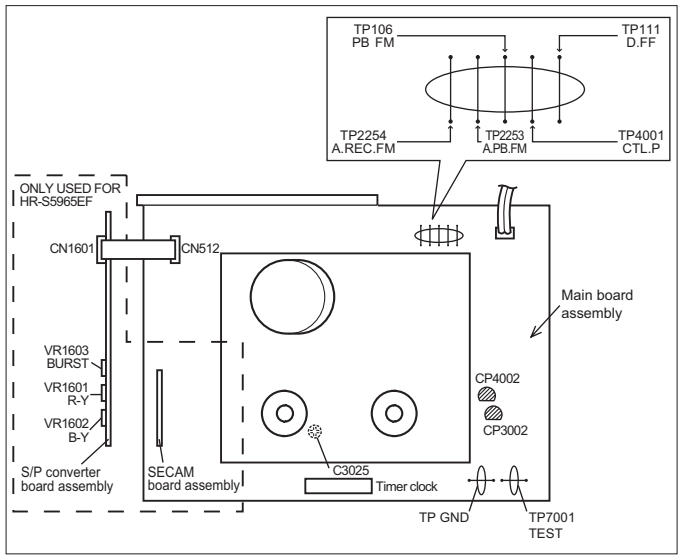


Fig.2-4-1a

2.5 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

(1) User RCU mode:Ordinary mode for use by the user.
(2) Jig RCU mode: Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed.These modes can be set by the operations described below.

Note:

- **Confirm the RCU mode when exchanged parts. Since some SERVICE PARTS sets the VCR to the Jig RCU mode as initial setting.**

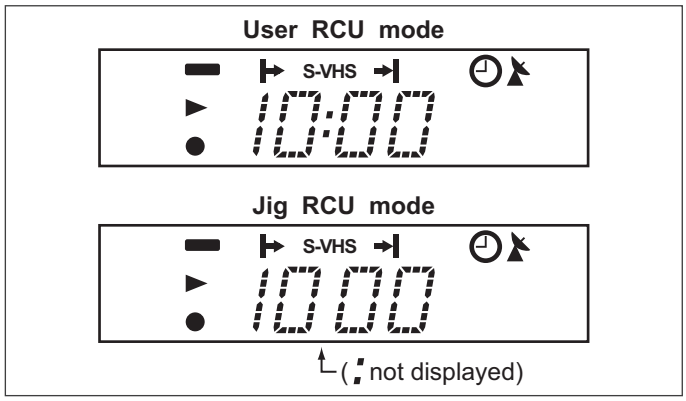


Fig.2-5-1a User/Jig RCU mode

2.5.1 Setting the Jig RCU mode

(1) Unplug the power cord plug from the power outlet.
(2) Press and hold the "REC" and "PAUSE" buttons on the VCR simultaneously, while plugging the power cord plug into the power outlet.
When the VCR is set to the Jig RCU mode, the symbols (" : ") in the time display of the FDP are turned off.
(Refer to Fig.2-5-1a)

2.5.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the “REC” and “PAUSE” buttons of the VCR simultaneously. Alternatively, transmit the code “80” from the Jig RCU.

2.6 Mechanism service mode

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the “Mechanism service mode”.

2.6.1 How to set the “Mechanism service mode”

(1) Set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received)
(2) Transmit the code “E5” from the Jig RCU.
(3) Release the lug of the Cassette holder and then slide the Cassette holder toward the direction where the Cassette holder is loaded by manually.
(4) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.
When the VCR is set to the Mechanism service mode, the symbols (“Timer”) in the FDP (LED) are blinked.

2.6.2 How to exit from the "Mechanism service mode"

(1) Unplug the power cord plug from the power outlet.

2.7 Maintenance and inspection

2.7.1 Cleaning

out cleaning of the tape transport system whenever the machine is serviced.
When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

Note:

- **Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.**

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.
(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
(3) After cleaning, make sure that the cleaned parts are completely dry before using the cassette tape.

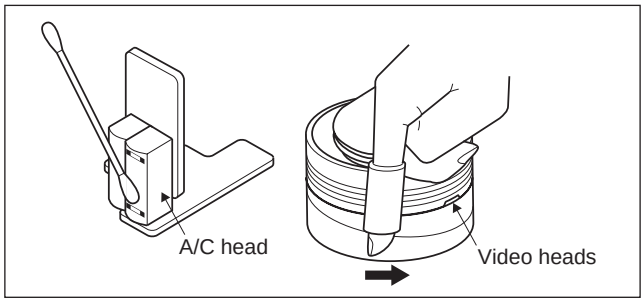


Fig.2-7-1a

2.7.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- **See the “mechanism assembly” diagram of the “parts list” for the lubricating or greasing spots, and for the types of oil or grease to be used.**

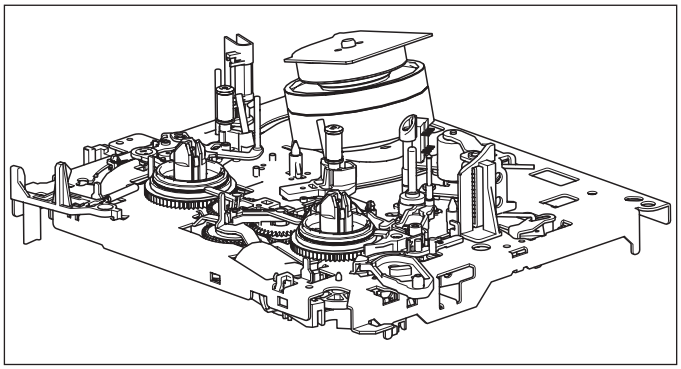
2.7.3 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts name	Operation hours	
		1000H	2000H
Tape transport	Drum assembly	C,X	X
	A/C head	C,X	C,X
	Pinch roller arm assembly	C	C
	Full erase head	C	C
	Tension arm assembly	C	C
	Capstan motor (Shaft)	C	C
	Guide arm assembly	C	C
Drive	Capstan motor		X
	Capstan brake assembly		X
	Main brake assembly		X
	Belt (Capstan)	X	X
	Loading motor		X
	Clutch unit		X
	Worm gear		X
	Control plate		X
Other	Rotary encoder		X

C : Cleaning
X : Inspection or Replacement if necessary

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).



MECHANISM ASSEMBLY

SECTION 3
ADJUSTMENT

3.1 Before adjustment

3.1.1 Precaution

- **The adjustments of this unit include the mechanism compatibility and electrical adjustments. During the performance of this work, be sure to observe the precautions for each type of adjustment.**
- **If there is a reference to a signal input method in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**

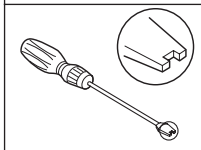
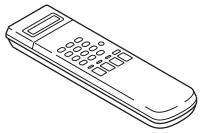
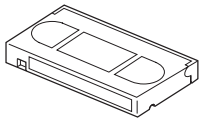
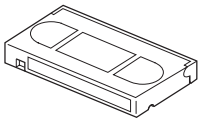
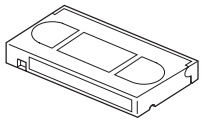
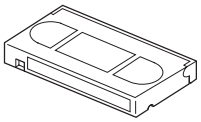
3.1.2 Required test equipments

- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [PAL/SECAM]
- Recording tape
- Digit-key remote controller(provided)

3.1.3 Required adjustment tools

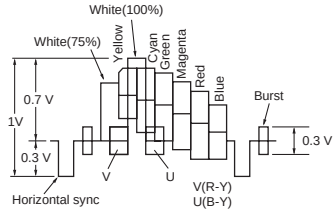
○ : Used --- : Not used

	Mechanism compatibility adjustment	Electrical adjustment
Roller driver	○	---
Jig RCU	---	○
Back tension cassette gauge	○	---
Alignment tape(MHPE)	○	---
Alignment tape(MHPE-L)	○	○
Alignment tape(MHP-L)	---	○

Roller driver PTU94002	Jig RCU PTU94023B	Back tension cassette gauge PUJ48076-2
		
Alignment tape (SP, stairstep, PAL) MHPE	Alignment tape (LP, stairstep, PAL) MHPE-L	Alignment tape (EP, stairstep, NTSC) MHP-L
		

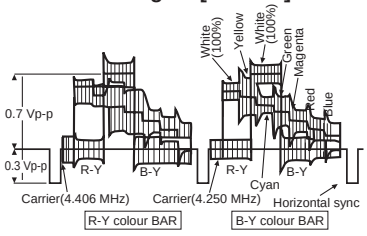
3.1.4 Color (colour) bar signal,Color (colour) bar pattern

• Colour bar signal [PAL]



• Colour bar pattern [PAL]

• Colour bar signal [SECAM]



• Colour bar pattern [SECAM]

3.1.5 Switch settings

When adjusting this unit, set the VCR mode and switches as described below.

- When using the Jig RCU, it is required to set the VCR to the Jig RCU mode. (Refer to 2.5 Jig RCU mode.)

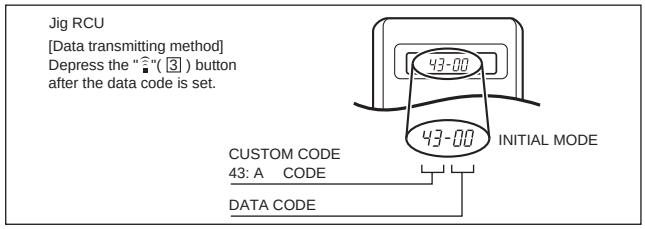


Fig.3-1-5a Jig RCU [PTU94023B]

- Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF
BLUE BACK	OFF

3.1.6 Manual tracking mode (Auto tracking ON/OFF) setting

(1) In order to set to the manual tracking mode during tape playback, press the "SP/EP(LP)"button on the remote control unit.
  - Each press of the button switches the auto tracking ON or OFF.
  - When the manual tracking mode is set, the tracking is placed at the center position.

(2) Press "channel +/-" to adjust the tracking manually.

3.1.7 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The main unit have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- **In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.**
- **When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.**
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- **As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.**
- **When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.**

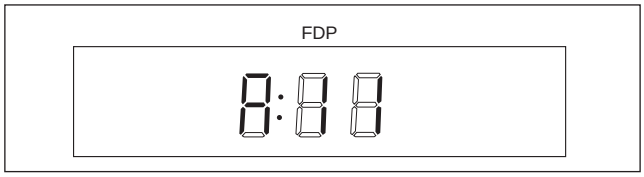


Fig.3-1-7a EVR mode

3.2 Mechanism compatibility adjustment

Notes:

- **Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.**
- **To prevent damaging the alignment tape in the compatibility adjustment, prepare a cassette tape (for self-recording/playback), perform a test on it by transporting it and making sure that the tape is not bent by the tape transport mechanisms such as in the guide rollers.(See Fig.3-2-2a.)**

3.2.1 Tension pole position

Notes:

- **This adjustment must be performed every time the tension band is replaced.**

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B1) (B2)	• PB • Eject end
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gfcm (2.45 - 5 x 10^{-3} Nm)

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.(See Fig.3-2-1a.)
   a) Remove the top frame, cassette holder and side frames (L/R) all together. (refer to the SERVICE MANUAL No.86700 [MECHANISM ASSEMBLY].)
   b) Rotate the loading motor gear to move the control plate so that the triangular stamping to the left of the “P”stamping is aligned with the stamping (a) on the main deck. This positioning is mode (B1).
   c) Adjust by turning the adjustment pin so that the tip of the tension arm is aligned with the stamping (b) on the main deck.
   d) Rotate the reel disk (S) by about one turn clockwise and make sure that the round hole of the adjustment pin is located in the “OK” range. If it is outside this range, restart the adjustment from the beginning.

   After completion of the adjustment, rotate the loading gear motor to return it to the mode (B2) position.

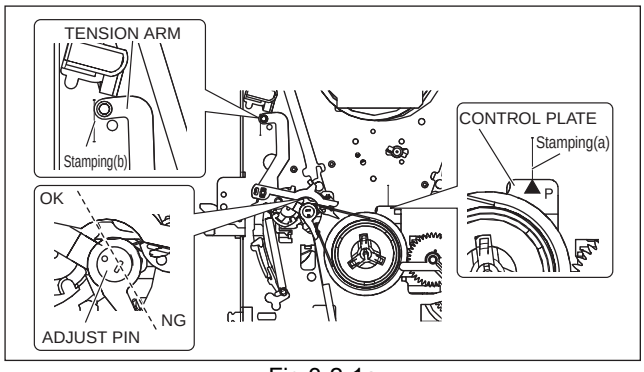


Fig.3-2-1a

3.2.2 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 3-2-2b.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 3-2-2b.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required,
perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 3-2-2a.) [Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

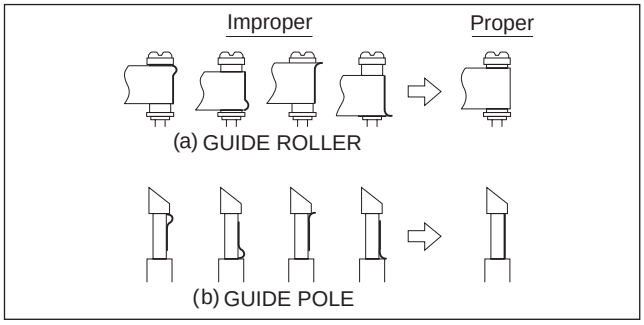


Fig.3-2-2a

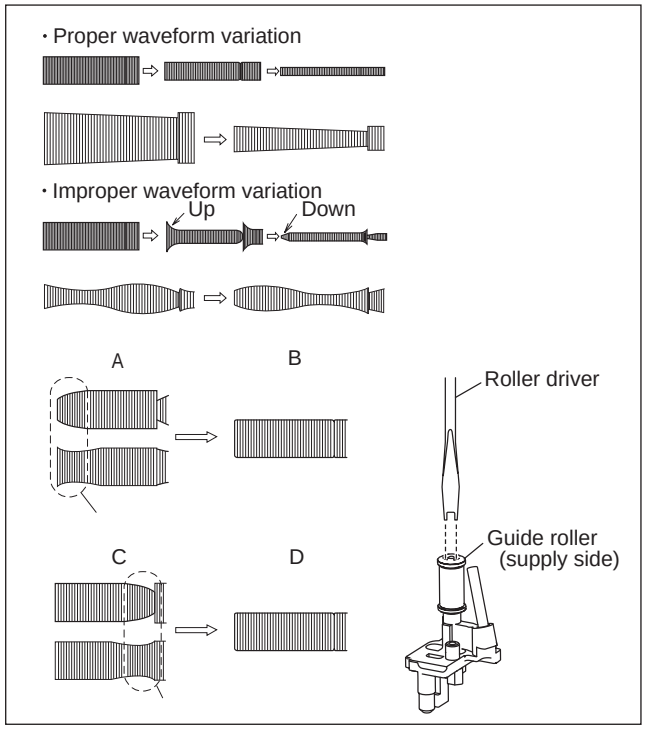


Fig.3-2-2b

3.2.3 Height and tilt of the A/C head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (Refer to the SERVICE MANUAL No.86700 [MECHANISM ASSEMBLY].)***

Signal	(A)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

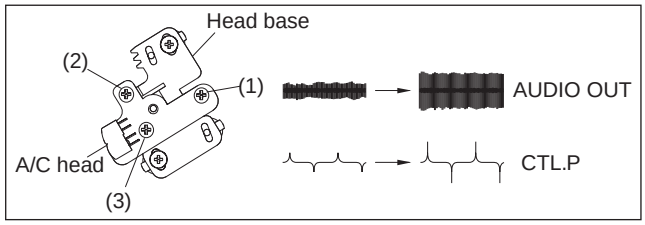


Fig.3-2-3a

3.2.4 A/C head phase (X-value)

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP,stairstep,PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the Roller driver to the innermost projected part of the A/C head. (See Fig. 3-2-4a.)
(5) Rotate the roller driver so that the A/C head comes closest to the capstan. From there, move the A/C head back gradually toward the drum until the point where the FM waveform is maximized for the second time, and then tighten the screws (4) and (5) temporarily.
(6) Play an alignment tape (A2) and set to the manual-tracking mode.
(7) Fine-adjust A/C head base position to maximize the FM waveform, and then tighten the screws (4) and (5) firmly.
(8) Play alignment tapes (A1) and (A2) and confirm that the FM waveforms are maximized when the tracking is at the center position.

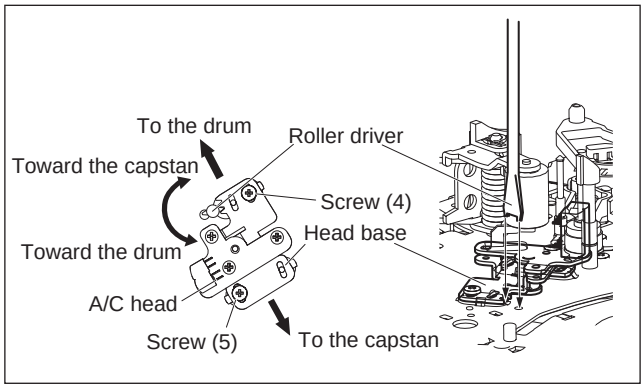


Fig.3-2-4a

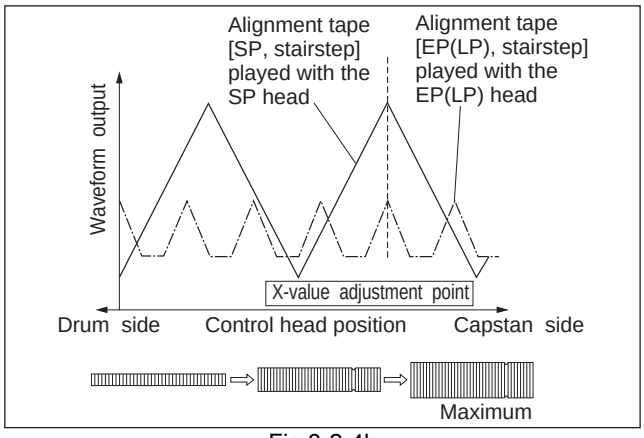


Fig.3-2-4b

3.3 Electrical adjustment

Note:
The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.3.1 Servo circuit

3.3.1.1 Switching point

Signal	(A1) (A2) (A3)	• Stairstep signal • Alignment tape(LP,stairstep,PAL) [MHPE-L] • Alignment tape(EP,stairstep,NTSC) [MHP-L]
Mode	(B)	• PB • TBC OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• VIDEO OUT terminal (75 ohm terminated) • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code ”51” or ”52”
Specified value	(G)	• 8.0 ± 0.5H(PAL) • 7.5 ± 0.5H(NTSC)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F1) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V. sync signal becomes the specified value (G1).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6).

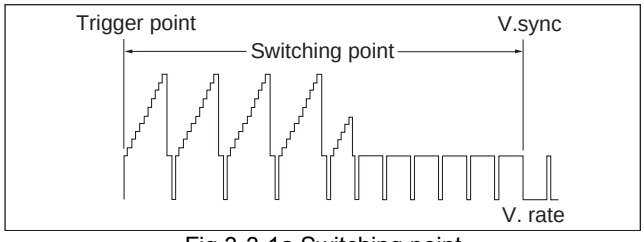


Fig.3-3-1a Switching point

3.3.1.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• S-VHS SP • S-VHS LP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code “71”or “72”
Specified value	(G)	• minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (-1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- **For FWD slow (+1/6x) playback, transmit the code "08" from the Jig RCU to enter the slow playback mode, and transmit the code "D0"for REV slow (-1/6x) mode.**

3.3.2 Video circuit

3.3.2.1 EE Y/PB Y (S-VHS/VHS) level

Signal	(A1)	• Ext. S-input
	(A2)	• Ext. input
	(A3)	• Color (colour) bar signal [PAL]
Mode	(B1)	• EE SP
	(B2)	• S-VHS SP
	(B3)	• VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75 ohm terminated)
EVR mode	(F1)	• Jig code "57"
EVR address	(F2)	• A : 11
	(F3)	• Jig code "21" twice
	(F4)	• Jig code "18" or "19" (Channel +/-)
Specified value	(G)	• 1.00 ± 0.05 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Input the signal (A3) from the input point (A1).
(2) Set the VCR to the mode (B1).
(3) Observe the Y OUT waveform at the measuring point (D).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(6) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Input the signal (A3) from the input point (A2).
(9) Repeat steps (3) to (7) in the mode (B1).
(10) Record the signal (A3) in the mode (B2), and play back the recorded signal.
(11) Set the VCR to the manual tracking mode.
(12) Repeat steps (3) to (7) in the mode (B2).
(13) Record the signal (A3) in the mode (B3), and play back the recorded signal.
(14) Set the VCR to the manual tracking mode.
(15) Repeat steps (3) to (7) in the mode (B3).

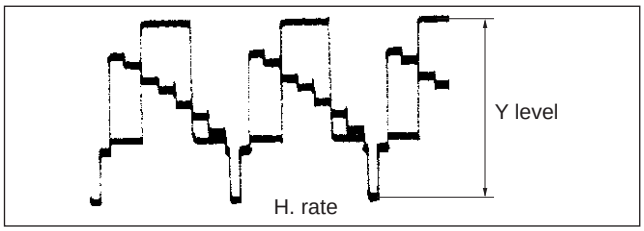


Fig.3-3-2a EE Y/PB Y lebel

3.3.3 Syscon circuit [EX MODEL]

Notes:

- **When perform this adjustment, remove the Mechanism assembly.**

3.3.3.1 Timer clock

Signal	(A1)	• No signal
Mode	(B)	• EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC3001 pin 44
	(D2)	• IC3001 pin 103
	(D3)	• C3054 + and -
Adjustment part	(F)	• C3025 (TIMER CLOCK)
Specified value	(G1)	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 usec)

(1) Connect the frequency counter to the measuring point (D1).
(2) Connect the short wire between the short point (D2) and Vcc (5V).
(3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the Syscon.
(4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
(5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

3.3.4 PAL/SECAM converter circuit [EF MODEL]

Notes:

- **Unless otherwise specified in this P/S Converter circuit adjustments, all measuring points and adjustment parts are located on the S-P Converter board.**

3.3.4.1 Colour difference level

Signal	(A)	• Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• CN1601 Pin 7
Adjustment part	(F1)	• VR1602 (B-Y ADJ)
	(F2)	• VR1601 (R-Y ADJ)
Specified value	(G1)	• 460 ± 20 mVp-p : VR1602 (B-Y)
	(G2)	• 620 ± 20 mVp-p : VR1601 (R-Y)

(1) Observe the C (converted colour) waveform at the measuring point (D).
(2) Adjust the adjustment part (F1) so that the higher level of the Yellow and Blue of the C waveform becomes the specified value (G1).
(3) Adjust the adjustment part (F2) so that the higher level of the Green and Magenta of the C waveform becomes the specified value (G2).

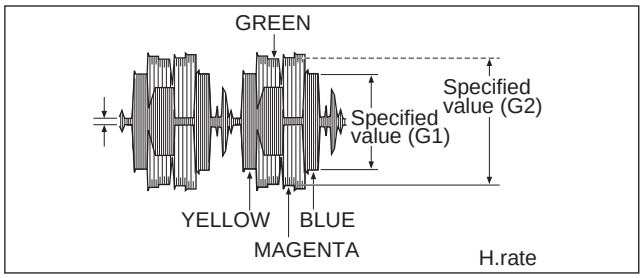


Fig.3-3-4a Colour difference level

3.3.4.2 SECAM burst position

Signal	(A1)	• Ext. input
	(A2)	• Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D1)	• CN1601 Pin 7
	(D2)	• CN1601 Pin 3
Adjustment part	(F1)	• VR1603 (SECAM BURST POSITION)
Specified value	(G)	• Tr = 5.6 ± 0.1 µsec

(1) Observe the waveforms appeared at the measuring points (D1) and (D2).
(2) Adjust the adjustment part (F) so that the waveforms timing width between the H-SYNC and the colour burst signal becomes the specified value (G).

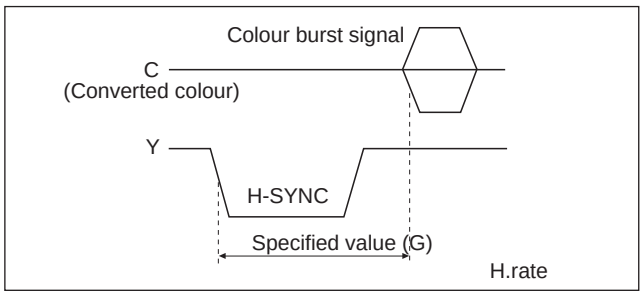


Fig.3-3-4b SECAM burst position

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY VIDEO RECORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.82961)

Printed in Japan
20034WPC

JVC

SCHEMATIC DIAGRAMS

VIDEO CASSETTE RECORDER

HR-S5960Ex,HR-S5961Ex, HR-S5962Ex,HR-S5963Ex, HR-S5965EF,HR-S5965EK, HR-S5966EK

CD-ROM No.SML200305

VIDEO Plus+ (EK model)
SHOWVIEW (other model)
S-VHS
Hi-Fi
Super VHS ET

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700 (MECHANISM ASSEMBLY).

SPECIFICATION *(The specifications shown pertain specifically to the model HR-S5960EX,S5961EX,S5962EX,S5963EX)*

GENERAL

Power requirement	AC 220 V - 240 V~, 50 Hz/60 Hz
Power consumption	
Power on	16 W
Power off	3.5 W
Temperature	
Operating	5°C to 40°C
Storage	-20°C to 60°C
Operating position	Horizontal only
Dimensions (W x H x D)	400 mm x 94 mm x 270 mm
Weight	3.1 kg
Format	S-VHS/VHS PAL standard
Maximum recording time	
(SP)	240 min. with E-240 video cassette
(LP)	480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	45 dB
Horizontal resolution	
VHS	250 lines
S-VHS	400 lines
Frequency range	
Normal audio	70 Hz to 10,000 Hz
Hi-Fi audio	20 Hz to 20,000 Hz
Input/Output	21-pin SCART connectors: IN/OUT x 1, IN/DECODER x 1RCA connectors:AUDIO OUT x 1

TUNER/TIMER

TV channel storage capacity	99 positions (+AUX position)
Tuning system	Frequency synthesized tuner
Channel coverage	
VHF	47 MHz - 89 MHz/104 MHz - 300 MHz/302 MHz - 470 MHz
UHF	470 MHz - 862 MHz
Aerial output	UHF channels 22 - 69 (Adjustable)
Memory backup time	Approx. 10 min.

ACCESSORIES

Provided accessories	: RF cable, Infrared remote control unit, Lithium battery - CR2032-

HR-S5960EX,HR-S5961EX,HR-S5962EX,HR-S5963EX,HR-S5965EF,HR-S5965EK,HR-S5966EK V16S0

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No.82961SCH
2003/4

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

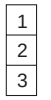
Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

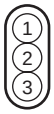
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

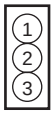
3. Interpreting Connector indications



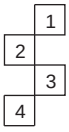
Removable connector



Wire soldered directly on board



Non-removable Board connector



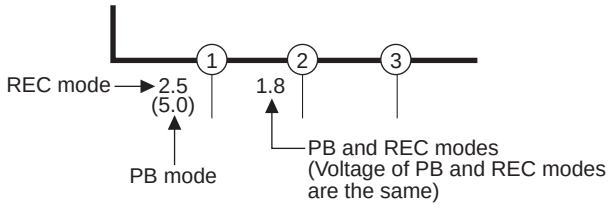
Board to Board

Connected pattern on board
The arrows indicate signal path

Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.

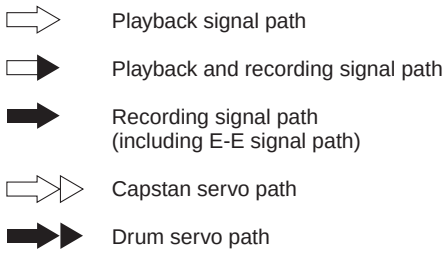


Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

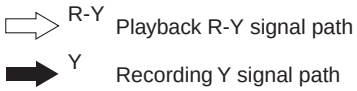
5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

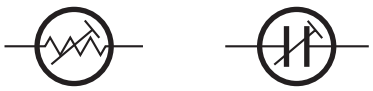


(Example)



6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

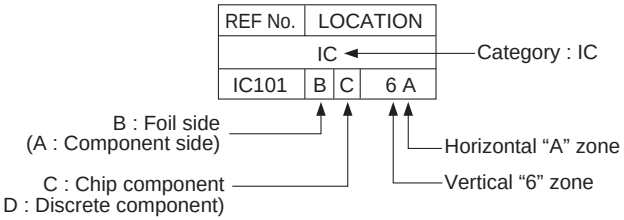
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

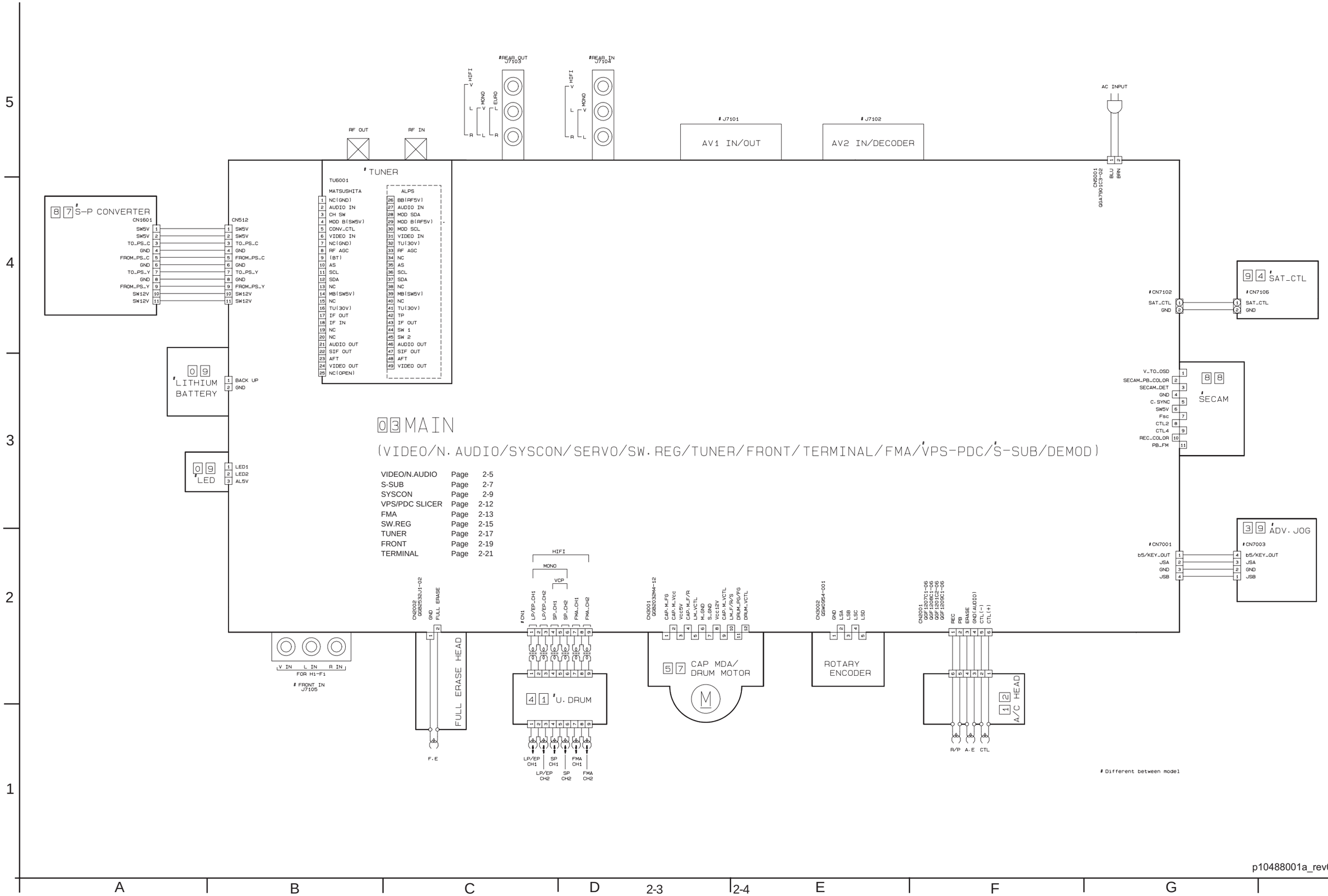
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

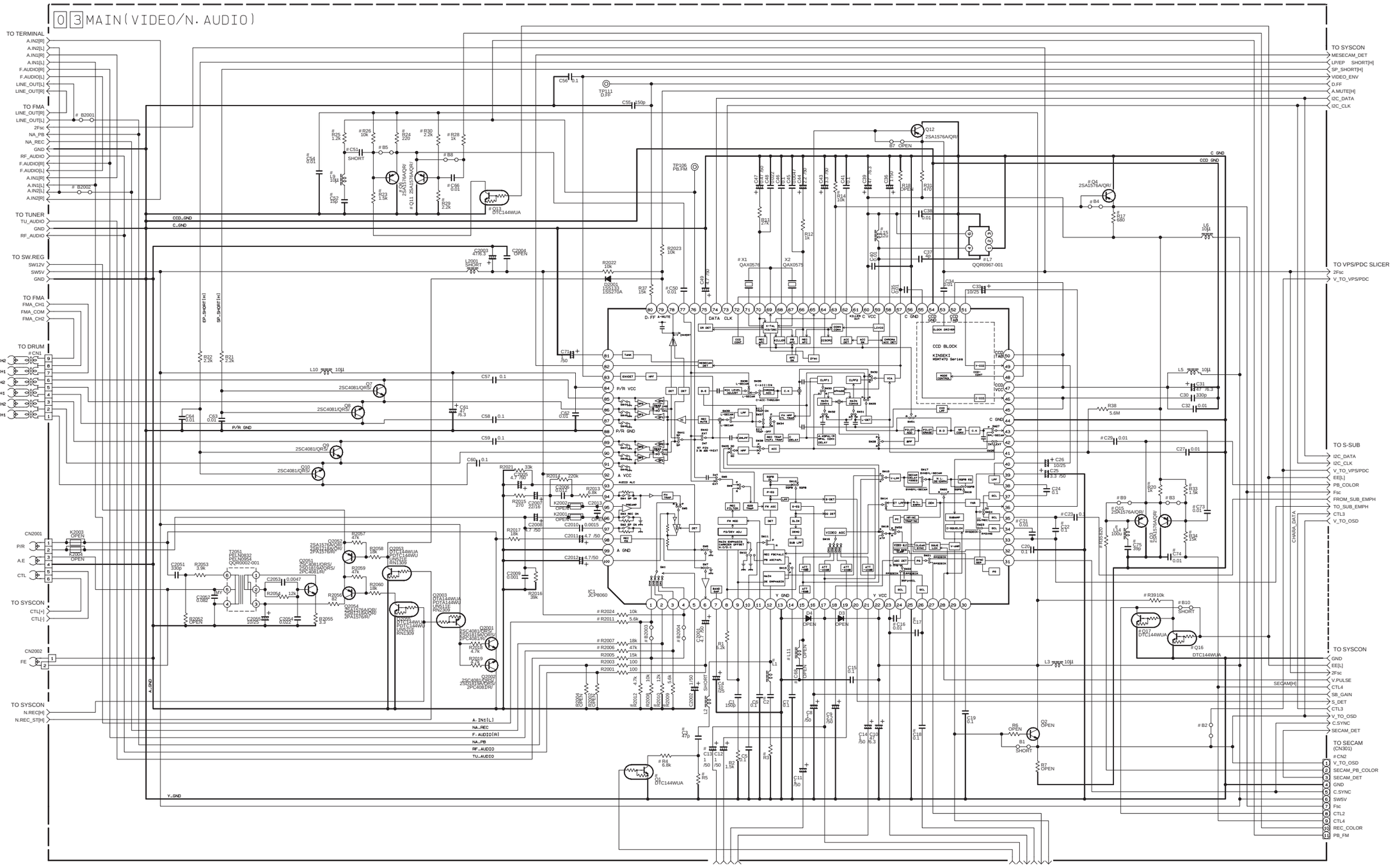


Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ BOARD INTERCONNECTIONS



■ MAIN(VIDEO/N.AUDIO) SCHEMATIC DIAGRAM



#DIFFERENCE TABLE 1

Working No	B2	B3-B4 R14	B5-R25-C50-C51-C54	L1	R3	C2	C16-C18-C21 C23-C73	C17-C22	L2	G1-R4 C3
D1	O	×	×	SHORT	8.2k	47p	×	O	×	×
SO	×	O	O	150μ	100	4p	O	×	O	O

#DIFFERENCE TABLE 4

Front In	C13
FRONT	O
NO FRONT	×

#DIFFERENCE TABLE 2

AUDIO		FRONT IN R2006 R2009	REAR IN R2011 R2012	NA REC R2007 R2010	LINE OUT B2001	TU AUDIO B2002	TU AUDIO B2003	TU AUDIO B2004	HIFI/MONO R2024
HIFI	EURO	×	×	O	×	×	O	×	O
	ARC/KOREA	×	×	O	×	×	×	×	O
	FRONT/REAR	O	O	×	O	O	×	O	×
MONO	FRONT	O	×	×	O	×	×	O	×
	REAR	×	O	×	O	O	×	O	×

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

#DIFFERENCE TABLE 3

Working No	B8-B10	B9	G3-R20-R33-R34-C74	G11-R24-R28-R29-R30-C66	R39 G16-G17	R5	R35	C29	C75-L14	L15	G6-G13 R23-R26	L9-C52
D1 & SO-EX/EK	×	×	×	×	×	×	×	×	×	×	×	×
D1 EF	O	O	×	×	×	2.2K	O	×	×	×	×	×
SO EF	×	O	O	O	O	×	O	×	O	×	×	O

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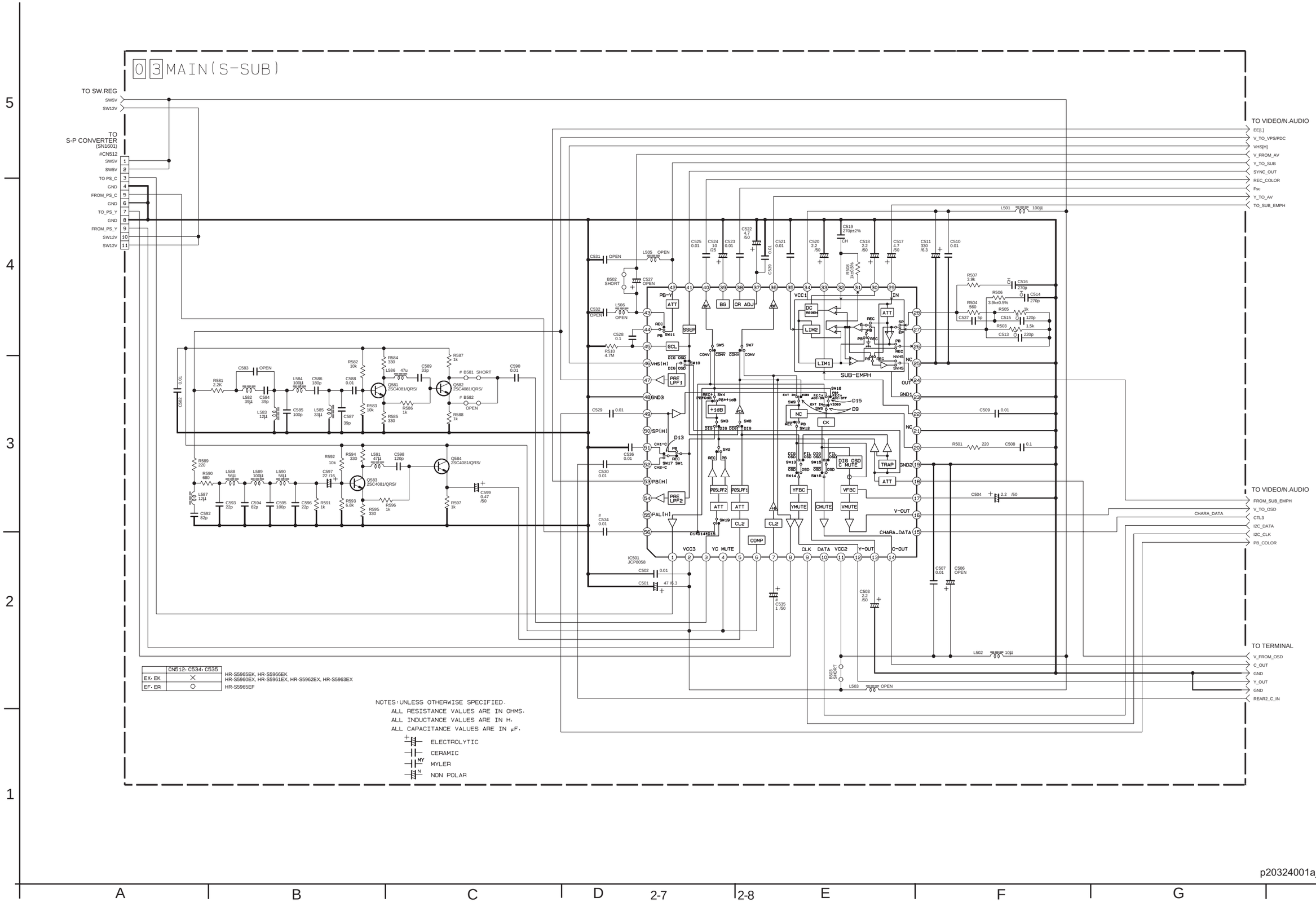
A B C 2-5 D 2-6 E F G

■ MAIN(S-SUB) SCHEMATIC DIAGRAM



	CN512·C534·C535	
EX·EK	×	HR-S5965EK, HR-S5966EK HR-S5960EX, HR-S5961EX, HR-S5962EX, HR-S5963EX
EF·ER	○	HR-S5965EF

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

+ ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR

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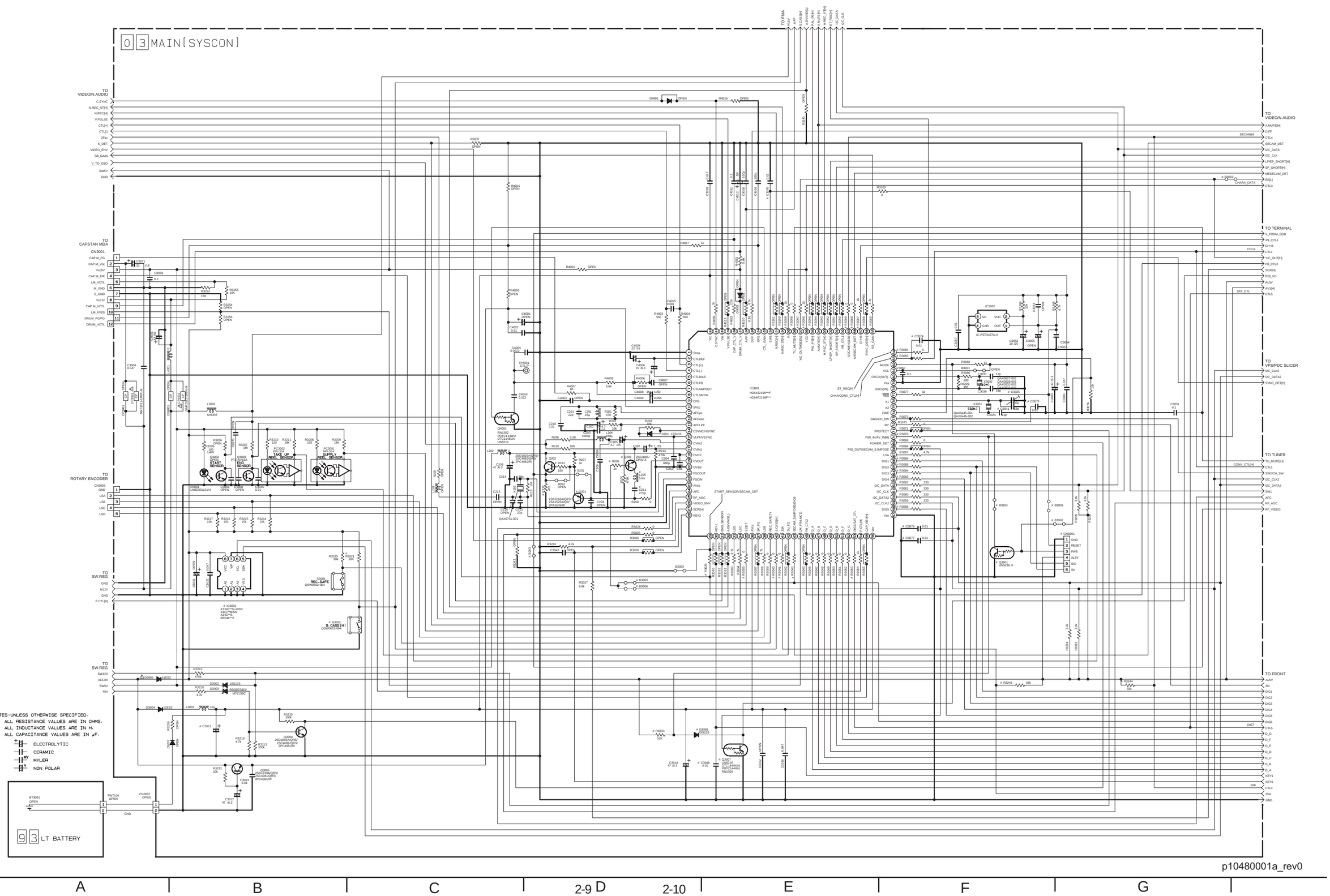
5 4 3 2 1
A B C D E F G
2-7 2-8

■ MAIN(SYSCON) SCHEMATIC DIAGRAM



■ DIFFERENCE TABLE OF SYSTEM CONTROL CIRCUIT

DIFFERENCE TABLE 1: V16 PAL EUROPE

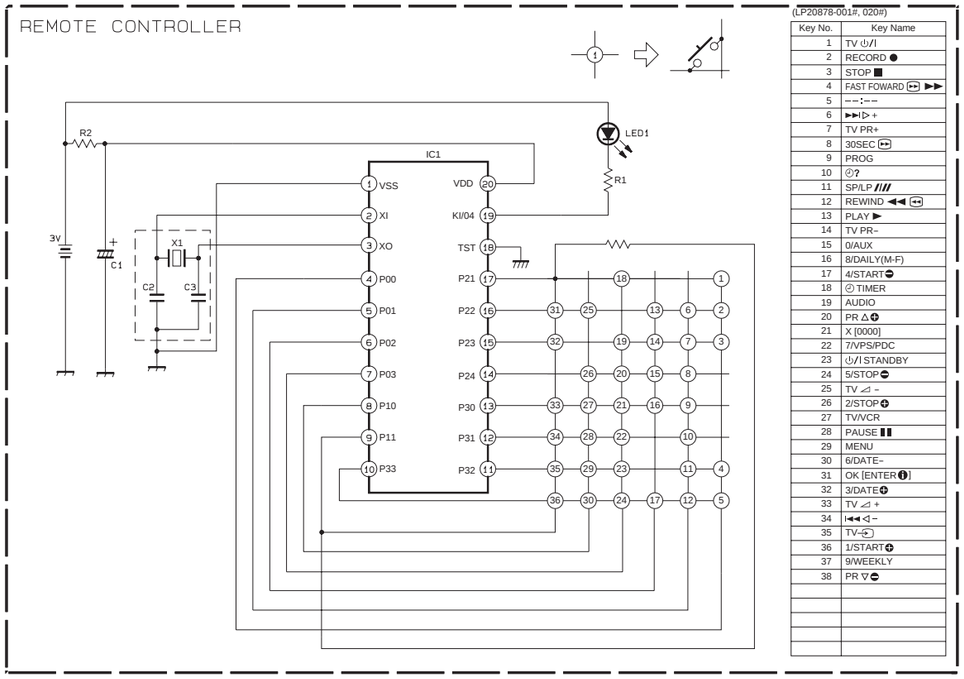
		HR-V600EX	HR-V605EK	HR-V705EK	HR-V605EF	HR-S5960EX	HR-S5965EK	HR-S6965EK	HR-S5965EF
ADV JOG/ SECAM	R3244, R3245	X	X	O	X	X	X	O	X
	R3029	X	X	X	O	X	X	X	O
	R3089	X	X	O	O	X	X	O	O
SUB-CLK	C3025	O	X	X	X	O	X	X	X
	C3041	X	O	O	O	X	O	O	O
S_CASS	S3002 R3221, R3040	X	X	X	X	O	O	O	O
CHARA_DATA	R3096~R3099	X	X	X	X	O	O	O	O
ET_REC[H]	R3084	X	X	X	X	O	O	O	O
EE[L]/YC_OUT[H]	B3002	X	X	X	O	X	X	X	X
	R3097	X	X	X	0 Ohm	1k	1k	1k	1k
DECODER	R3087	O	X	X	O	O	X	X	O
CHFA/CONV_CTL[H]	R3083	1k	X	X	1k	1k	X	X	1k
SECAM OSD/ 6 DIGIT DISPLAY	R3043	X	X	X	0 Ohm	1k	1k	1k	1k
SAT_CTL/ 8 DIGIT DISPLAY	R3053	0 Ohm	0 Ohm	0 Ohm	0 Ohm	1k	1k	1k	1k
LED DISPLAY	R3058~R3063~R3066	0 Ohm	0 Ohm	0 Ohm	0 Ohm	1k	1k	1k	1k
SECAM OSD	Q203, L205 R206, C211	X	X	X	O	X	X	X	O
	B3005	X	X	X	O	X	X	X	X
	B3006	X	X	X	X	X	X	X	O
OSD	B201	O	O	O	O	X	X	X	X
	R207, Q201, Q202, R211, R212, B203	X	X	X	X	O	O	O	O
P50/AV_IN[H]	R3234, D3008, Q3007	O	O	O	O	X	X	X	X
	R3070	0 Ohm	0 Ohm	0 Ohm	0 Ohm	1k	1k	1k	1k
ESD	C3048, C3073~C3074 C3076~C3078	X	X	X	X	X	X	X	X
EEPROM	IC3003	16k	16k	16k	16k	16k	16k	16k	16k

#DIFFERENCE TABLE 2

ON BOARD WRITING
R3039, R3040, R3041 R3221, R3225, R3245 B3901, B3902, B3903 Q3901, CN3901

■ REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.

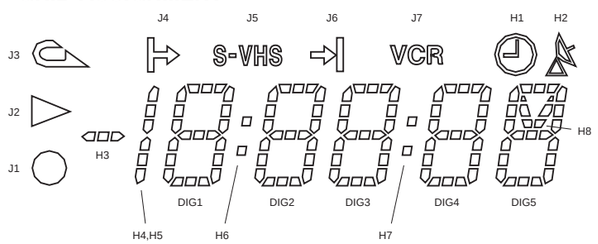


(LP20878-001#, 020#)

Key No.	Key Name
1	TV ⏻/I
2	RECORD ●
3	STOP ■
4	FAST FOWARD ⏩ ▶▶
5	--:--
6	▶▶I ▷+
7	TV PR+
8	30SEC ⏩
9	PROG
10	⏲?
11	SP/LP ////
12	REWIND ◀◀ ⏪
13	PLAY ▶
14	TV PR-
15	0/AUX
16	8/DAILY(M-F)
17	4/START ⏺
18	⏲ TIMER
19	AUDIO
20	PR △ ⏻
21	X [0000]
22	7/VPS/PDC
23	⏻/I STANDBY
24	5/STOP ⏺
25	TV ◿ -
26	2/STOP ⏻
27	TV/VCR
28	PAUSE ▮▮
29	MENU
30	6/DATE-
31	OK [ENTER ⓘ]
32	3/DATE ⏻
33	TV ◿ +
34	I◀◀ ◁-
35	TV- ⏻
36	1/START ⏻
37	9/WEEKLY
38	PR ▽ ⏺

■ FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT

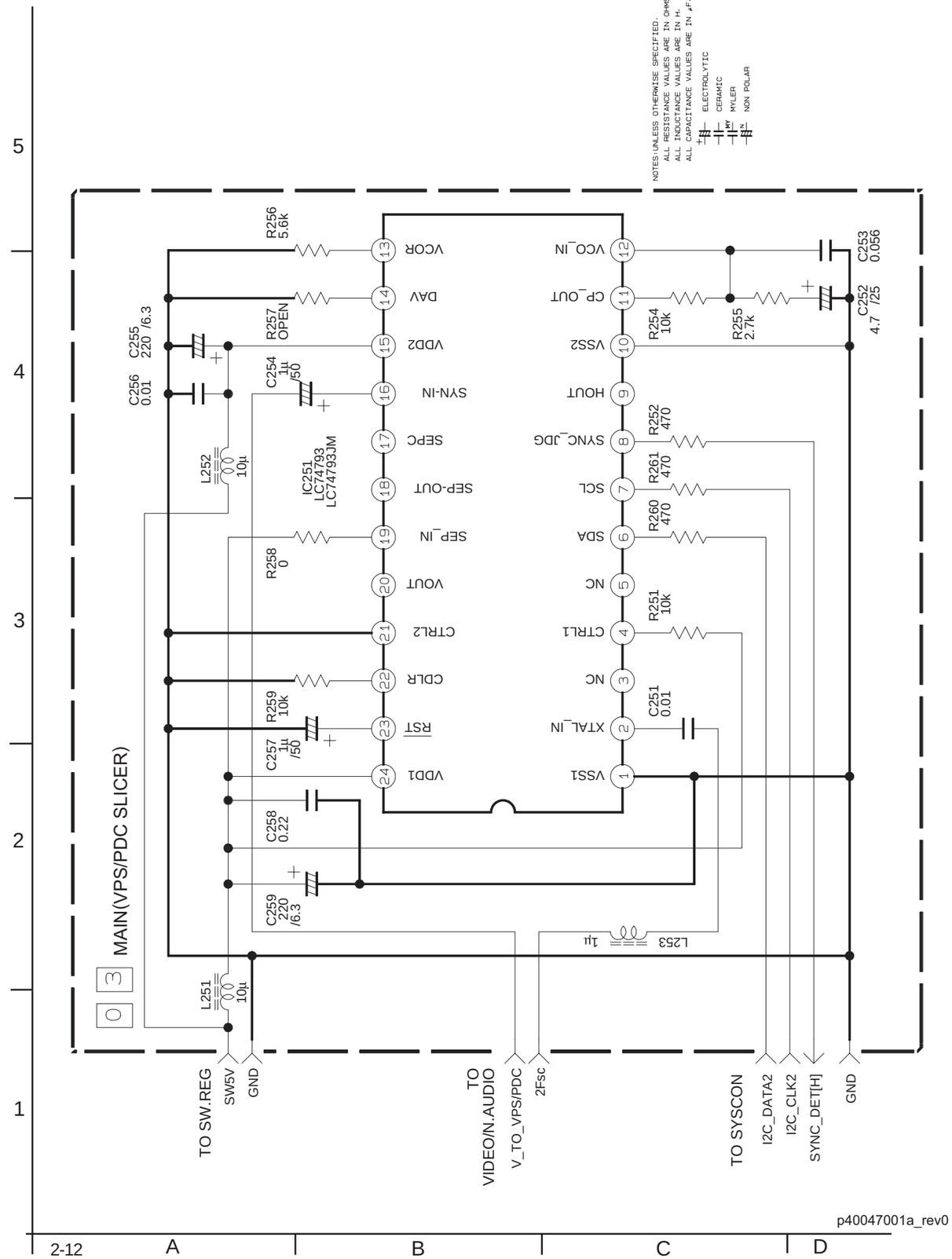


ANODE CONNECTION

No.	CONNECTION
1	CATHODE G, J7, H8
2	CATHODE F, J6, H7
3	CATHODE E, J5, H6
4	CATHODE D, J4, H4, H5
5	CATHODE C, J3, H3
6	CATHODE B, J2, H2
7	CATHODE A, J1, H1
8	COMMON ANODE H1-H8
9	COMMON ANODE J1-J7
10	COMMON ANODE (DIGIT 5)
11	COMMON ANODE (DIGIT 4)
12	COMMON ANODE (DIGIT 3)
13	COMMON ANODE (DIGIT 2)
14	COMMON ANODE (DIGIT 1)

■ MAIN(VPS/PDC SLICER) SCHEMATIC DIAGRAM

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR



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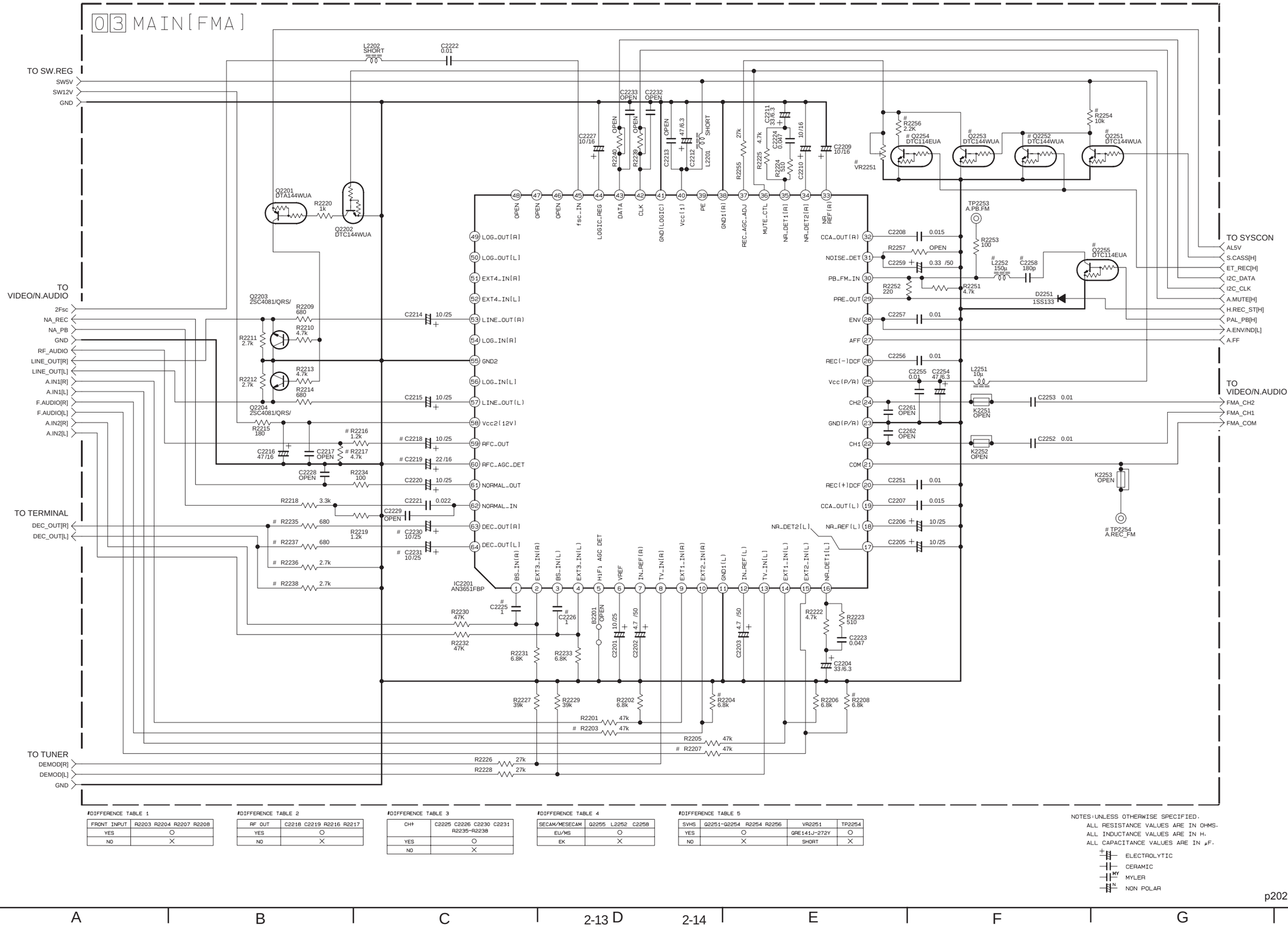
■ MAIN(FMA) SCHEMATIC DIAGRAM



#DIFFERENCE TABLE 1

FRONT INPUT	R2203 R2204 R2207 R2208
YES	○
NO	×

#DIFFERENCE TABLE 2

RF OUT	C2218 C2219 R2216 R2217
YES	○
NO	×

#DIFFERENCE TABLE 3

CH+	C2225 C2226 C2230 C2231 R2235-R2238
YES	○
NO	×

#DIFFERENCE TABLE 4

SECAM/MESECAM	Q2255 L2252 C2258
EU/MS	○
EK	×

#DIFFERENCE TABLE 5

SVHS	Q2251-Q2254 R2254 R2256	VR2251	TP2254
YES	○	GRE141J-272Y	○
NO	×	SHORT	×

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

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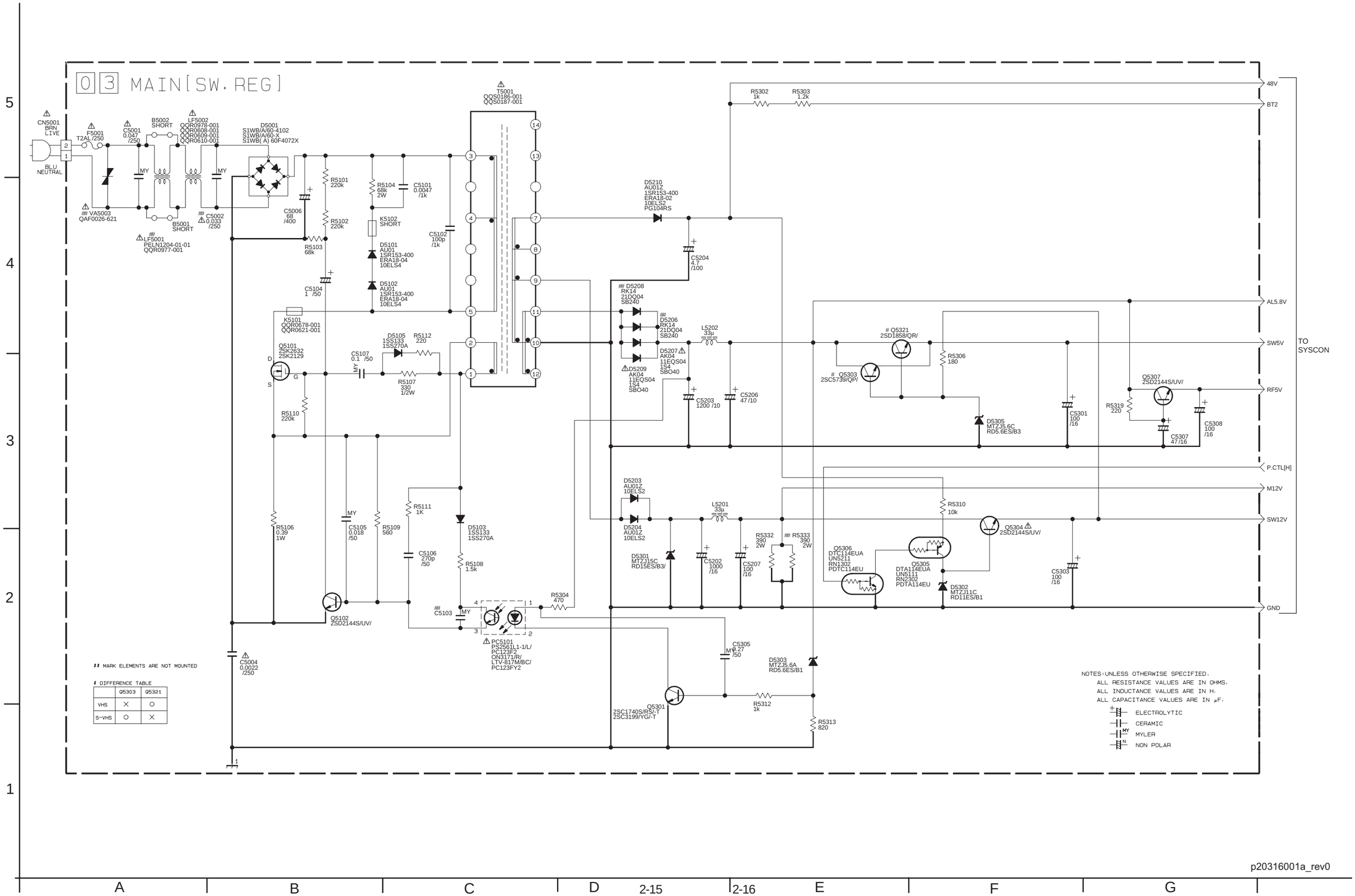
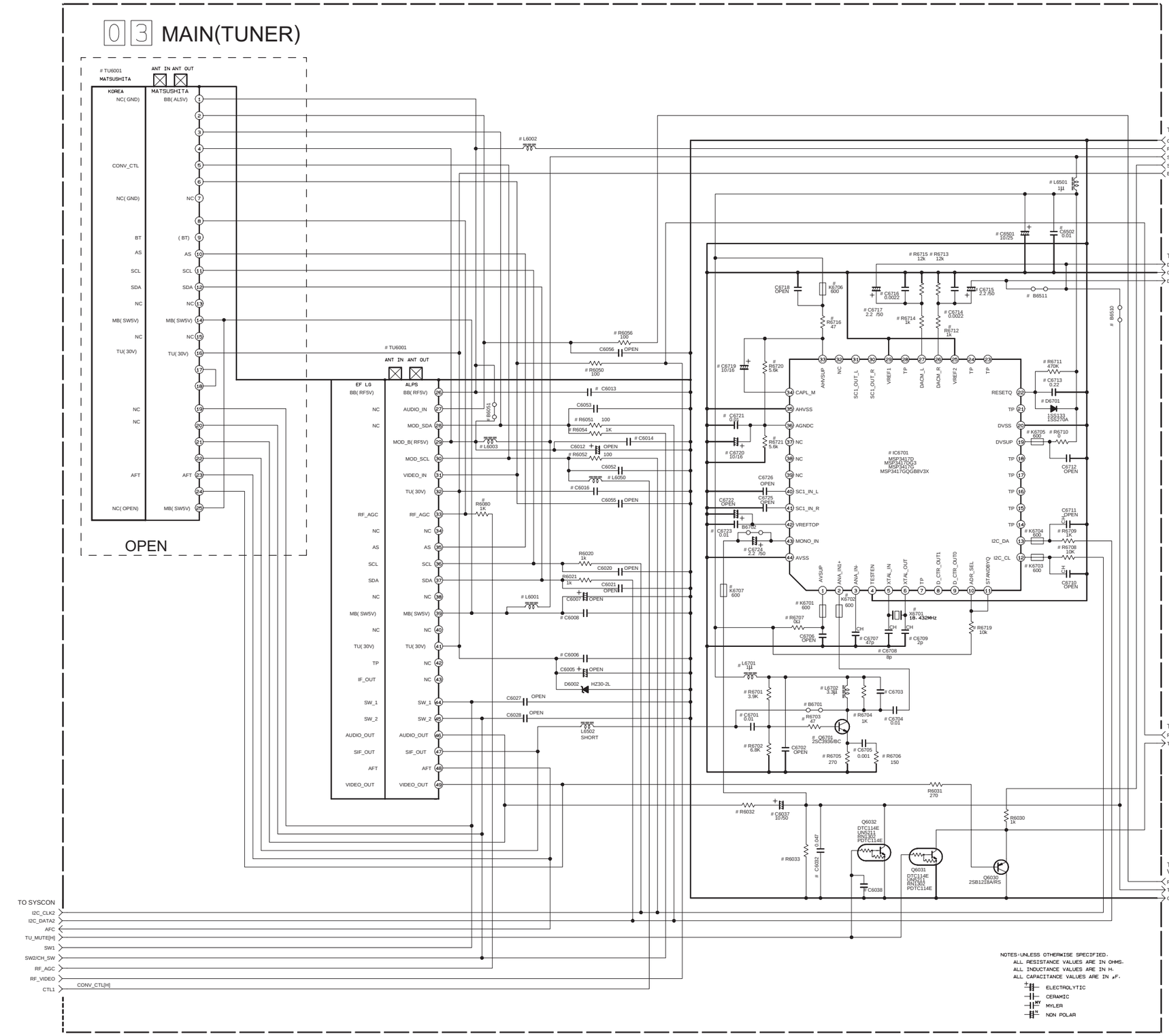
■ MAIN(SW.REG) SCHEMATIC DIAGRAM



■ MAIN(TUNER) SCHEMATIC DIAGRAM



#DIFFERENCE TABLE

		EX/EK	AS	AG STEREO DECODER YES	AG STEREO DECODER NO	AH	KR	EF	ER/AA STEREO DECODER YES	ER/AA STEREO DECODER NO
TUNER UNIT	TU6001	GAU0261	GAU0261	GAU0261	GAU0261	GAU0236	GAU0238	GAU0299	GAU0261	GAU0251
RF CONVERTER	R6051-R6052	○	○	○	○	○	×	×	○	○
	L6002	1μ	1μ	1μ	SHORT	SHORT	×	1μ	1μ	SHORT
	R6050	○	○	○	○	○	×	×	○	○
	R6056	○	○	○	○	○	○	×	○	○
	B6051	○	○	○	○	○	×	×	○	○
	C6013-C6014	0.01μ	0.01μ	0.01μ	×	×	×	×	0.01μ	×
	R6054	×	×	×	×	×	○	×	×	×
	C6016	0.01μ	0.01μ	0.01μ	×	×	×	×	0.01μ	×
	L6003-L6050	×	×	×	×	×	SHORT	×	×	×
SW5V	L6001	1μ	1μ	1μ	SHORT	SHORT	SHORT	SHORT	1μ	SHORT
	C6008	0.01μ	0.01μ	0.01μ	×	×	×	×	0.01μ	×
TU30V	C6006	0.01μ	0.01μ	0.01μ	0.01μ	×	×	×	0.01μ	0.01μ
RF AGC	R6080	○	×	×	×	×	×	○	×	×
AUDIO DEEMPHASIS	R6032	4.7K	4.7K	4.7K	4.7K	SHORT	×	18K	4.7K	4.7K
	R6033	1.8K	1.8K	1.8K	1.8K	×	×	18K	1.8K	1.8K
	C6032	○	○	○	○	×	×	○	○	○
	C6037	○	○	○	○	○	×	○	○	○
MUTE CCT	Q6031-Q6032	○	×	×	×	×	×	○	○	×
	C6038	×	×	×	×	×	×	×	×	×
PRE-AMPLIFIER CIRCUIT	R6701 R6703-R6705 R6701 L6701-L6702	×	×	○	×	○	○	×	×	×
	B6701	○	×	×	×	×	○	○	○	×
	R6702	×	×	○	×	○	○	×	×	×
	R6706	×	×	×	×	×	○	×	×	×
	C6701	×	×	○	×	○	○	×	×	×
	C6703	×	×	180p	×	220p	×	×	×	×
	C6704	○	×	○	×	○	○	○	○	×
	C6705	×	×	×	×	×	○	×	×	×
MONO IN	K6707-C6724	×	×	×	×	×	×	○	×	×
STEREO DECODER	R6707-R6716 R6719-R6721 C6707-C6709 C6713-C6717 C6719-C6721 C6723-X6701 K6701-K6706 IC6701-D6701 C6501-C6502	○	×	○	×	○	○	○	○	×
	B6510-B6511	×	○	×	○	×	×	×	×	○

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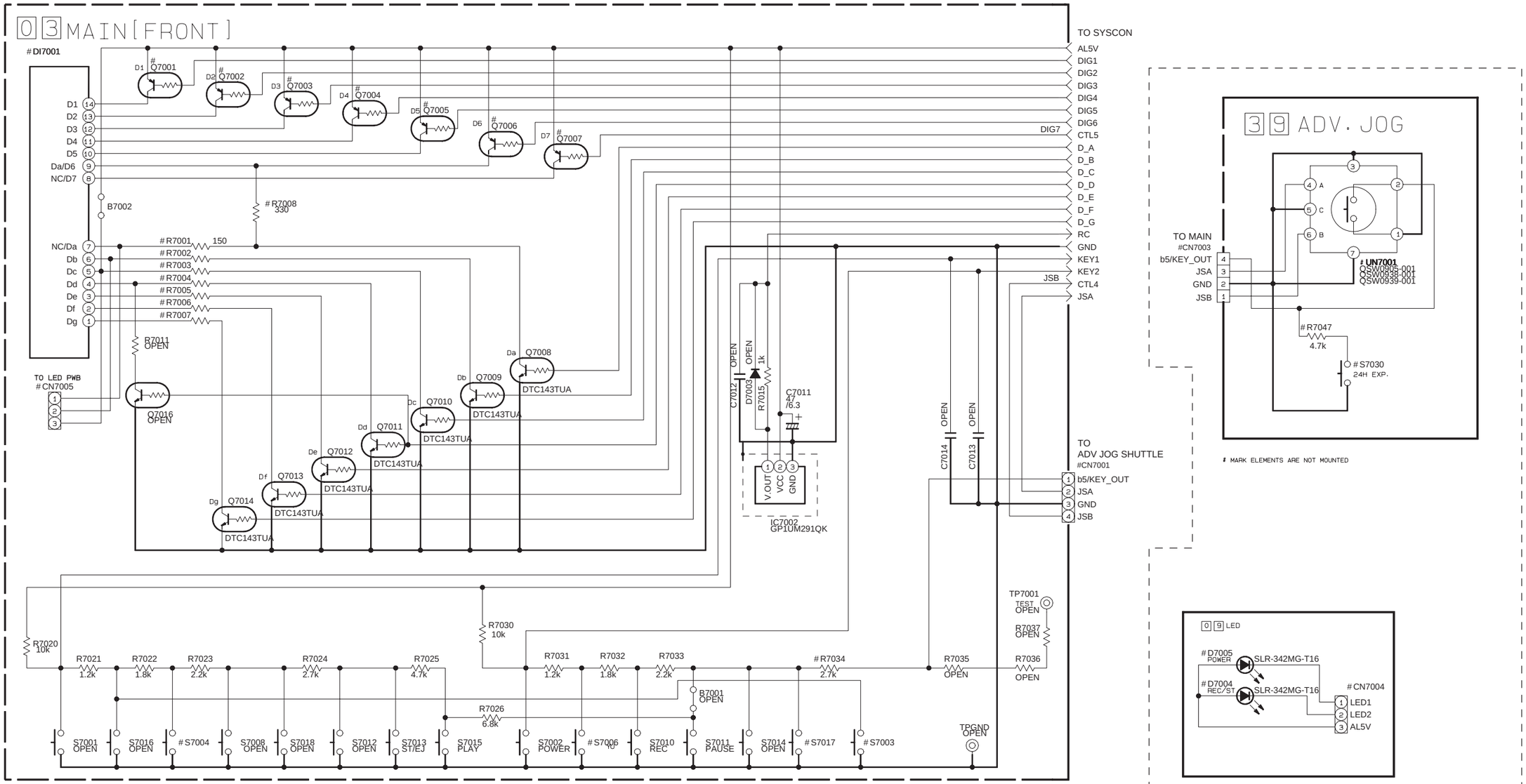
■ MAIN(FRONT), LED AND ADV.JOG SCHEMATIC DIAGRAMS



#DIFFERENCE TABLE 1

TOOL	Working No	S7001	S7002	S7003	S7004	S7006	S7008	S7010	S7011	S7012	S7013	S7014	S7015	S7016	S7017	S7018	S7030	R7034 R7047	UN7001 CN7003
400K	D1/S0	–	POWER	PR–	REW	FF	–	REC	REC LINK/ PAUSE	–	ST/EJ	–	PLAY	–	PR+	–	X	X	X
400KA	D1+	–	POWER	TIMER	INSTANT REVIEW	SP/LP	–	REC	REC LINK/ PAUSE	–	ST/EJ	–	PLAY	–	DISPLAY	–	24H EXP	O	O
	S0+	–	POWER	TIMER	COUNTER RESET	SP/LP	–	REC	REC LINK/ PAUSE	–	ST/EJ	–	PLAY	–	DISPLAY	–	24H EXP	O	O

#DIFFERENCE TABLE 2

Working No	DI7001	Q7001– Q7005	Q7006. Q7007	R7008	R7001	R7002– R7007
S0. S0+	LTG-0126M-03	2SB1218A/QR 2SA1576A/QR 2PA1576/R	2SB1218A/QR 2SA1576A/QR 2PA1576/R	X	0	150
D1. D1+	LTG-Y2K16M-J	DTA143TUA-X	OPEN	0	X	330

#DIFFERENCE TABLE 3

	CN7004 CN7005	D7004 D7005
VCP	O	O
VCR	X	X

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

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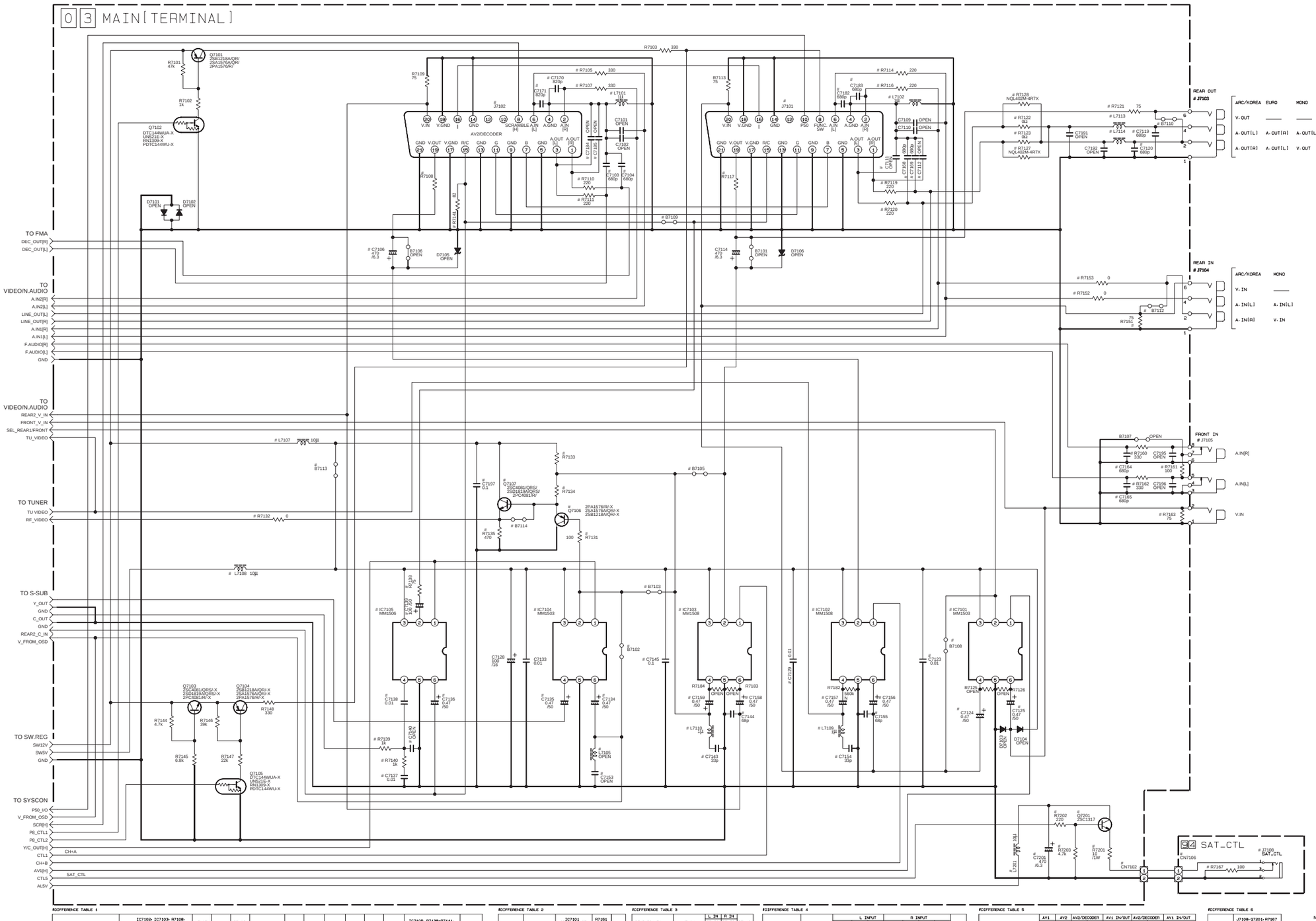
■ MAIN(TERMINAL)SCHEMATIC DIAGRAM



#DIFFERENCE TABLE 1

VIDEO			IC7100- IC7103- R7108- C7105- C7106- C7143- C7144- C7154- C7155- L7105- L7110	L7107 B7105	B7102 R7132 C7197	R7108 R7117	R7133	R7134	Q7105- R7131	B7103	B7113 L7108	B7114	Q7107 R7135	IC7105- R7138- R7141- C7128- C7134- C7140- C7153- L7105-	IC7104
VHS	DECODER	YES	○	×	○	75	GRE141J-471Y	470	○	×	○	○	×	×	×
		NO	×	○	○	75	GRE121J-331Y	0	○	×	×	○	×	×	×
S-VHS	DECODER	YES	○	×	×	68	GRE141J-471Y	470	○	×	○	×	×	○	MM1503
		NO	×	○	×	68	×	0	×	○	×	×	×	○	MM1507

#DIFFERENCE TABLE 2

FRONT IN	J7105	IC7101 C7184- C7185 R7161- R7160 C7164	R7161 R7162 C7165	B7108
YES(3P)	GNN0381-003 GNN0372-001 GNN0496-003	○	○	×
YES(2P)	GNN0382-002 GNN0374-001	○	×	×
NO	×	×	×	○

#DIFFERENCE TABLE 3

REAR RCA IN	J7104	L IN R7152	R IN R7153	B7112
ARC/KOREA 3PIN	GNN0380-003 GNN0494-003	○	○	×
ARC/KOREA 2PIN	GNN0382-002 GNN0345-003	○	×	○
ARC/KOREA NO	×	×	×	×

#DIFFERENCE TABLE 4

REAR RCA OUT	J7103	L INPUT R7122	L INPUT R7128	L INPUT L7113	R INPUT R7123	R INPUT R7127	R INPUT C7120	R INPUT L7114	B7110
EX/EX/EF YES	GNN0380-003 GNN0345-003	×	○	1μ	×	○	○	1μ	×
EX/EX/EF NO	×	×	×	×	×	×	×	×	×
ARC/KOREA 3PIN	GNN0380-003 GNN0495-003	○	×	SHORT	○	×	○	SHORT	×
ARC/KOREA 2PIN	GNN0292-002	○	×	SHORT	×	×	×	×	○

#DIFFERENCE TABLE 5

SCART IN/OUT		AV1 J7101	AV2 J7102	AV2/DECODER R7105 R7107	AV2/DECODER R7110 R7111	AV1 IN/OUT R7114-R7116 R7119-R7120	AV2/DECODER C7103 C7104	AV1 IN/OUT C7170 C7171	C7168- C7169 C7180- C7183
EX/EF	WITH CH#	○	○	○	○	○	○	○	○
EX	WITHOUT CH#	○	○	○	×	○	×	○	○
ARC/KOREA		×	×	×	×	×	×	×	×

#DIFFERENCE TABLE 6

SAT.CTL	J7108-Q7201-R7167 R7201-R7203- C7201 L7201-CN7102- CN7106
YES	○
NO	×

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

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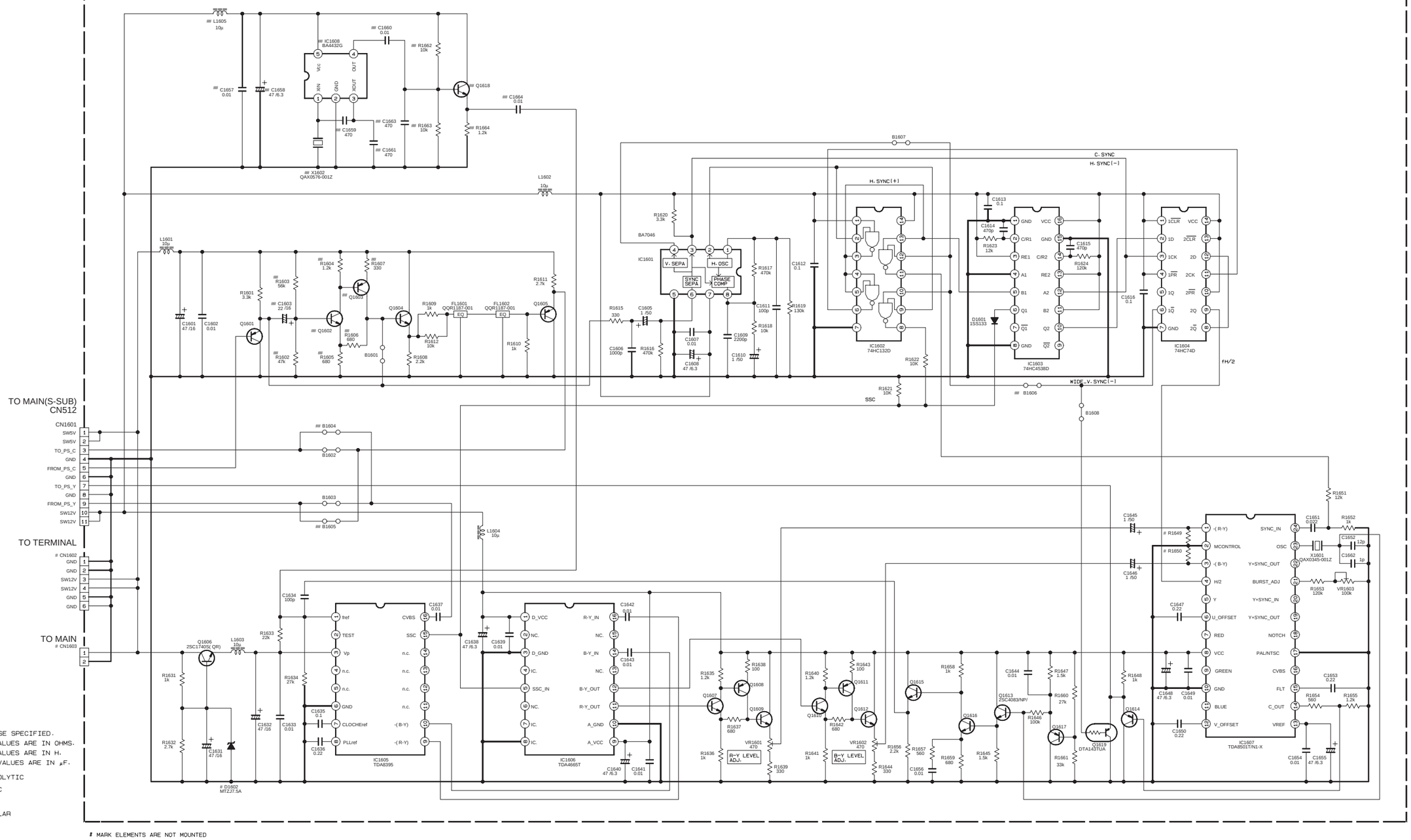
5 4 3 2 1

A B C 2-21 D 2-22 E F G

■ S-P CONVERTER SCHEMATIC DIAGRAM [HR-S5965EF]

87 S-P CONVERTER



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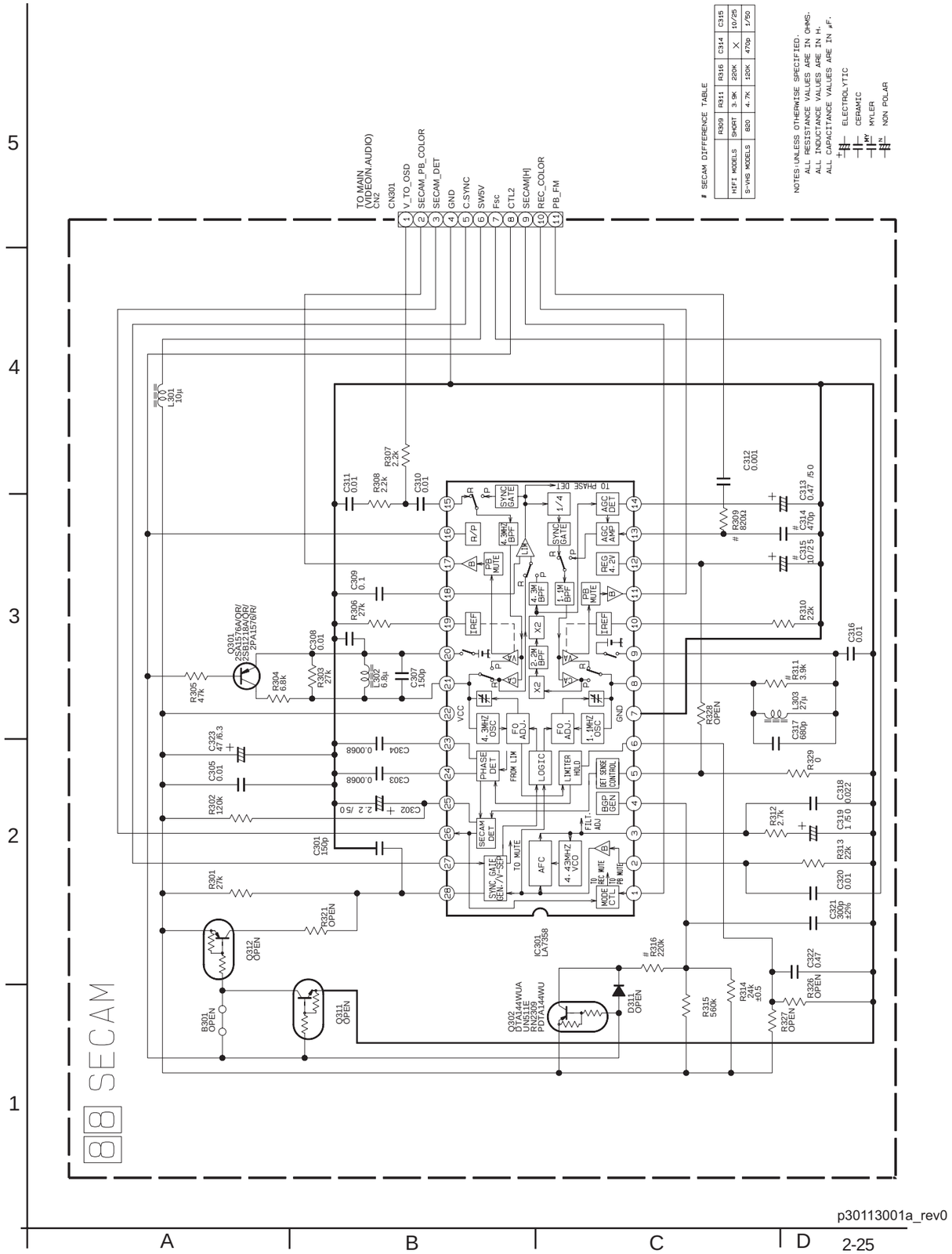
■ SECAM SCHEMATIC DIAGRAM [HR-S5965EF]



COMPONENT PARTS LOCATION GUIDE <MAIN> LPB10189-001C

REF.NO.	LOCATION
CAPACITOR	
C1	B C 12N
C2	B C 11M
C3	B C 12N
C4	A D 11N
C5	B C 12N
C6	B C 12M
C7	B C 12M
C8	A D 10M
C9	A D 11M
C10	A D 11M
C11	A D 11N
C12	A D 10M
C13	A D 10M
C14	A D 10M
C15	B C 11M
C16	B C 11M
C17	B C 10L
C18	B C 10L
C19	B C 11L
C20	B C 11L
C21	B C 11L
C22	B C 11J
C23	B C 11J
C24	B C 12L
C25	A D 11L
C26	A D 11K
C27	B C 11L
C29	B C 11K
C30	B C 12K
C31	A D 12K
C32	B C 12K
C33	A D 12K
C34	B C 13J
C35	B C 13K
C36	A D 13K
C37	B C 13K
C38	B C 13J
C39	A D 13J
C40	B C 13K
C41	B C 14K
C43	A D 14K
C44	A D 14K
C45	B C 14L
C46	B C 14L
C47	A D 14L
C48	B C 14L
C49	A D 14L
C50	B C 9I
C51	B C 10J
C52	B C 10J
C54	B C 10K
C55	B C 15L
C56	B C 14M
C57	B C 15L
C58	B C 15M
C59	B C 15M
C60	B C 16M
C61	A D 14M
C62	A D 14M
C63	B C 15L
C64	A D 15L
C66	B C 9J
C68	B C 11N
C71	A D 14M
C73	B C 12K
C74	B C 11K
C75	B C 11K
C201	B C 11G
C202	A D 11G
C203	B C 11F
C204	B C 11F
C205	A D 10F
C206	B C 10F
C207	A D 9F
C208	B C 11E
C209	A D 9F
C210	B C 11F
C211	B C 10E
C212	B C 11E
C213	B C 9E
C214	B C 9E
C215	B C 9E
C216	B C 9E
C251	B C 5C
C252	A D 6C
C253	B C 6C
C254	A D 6B
C255	A D 6B
C256	B C 6C
C257	A D 5B
C258	B C 5C
C259	A D 5B
C501	A D 6N
C502	B C 6N
C503	A D 5M
C504	A D 6M
C506	A D 5M
C507	B C 6M
C508	B C 6L
C509	B C 6L
C510	A D 7L
C511	A D 7L
C513	B C 6L
C514	B C 5L
C515	B C 6L
C516	B C 5L
C517	A D 6L
C518	A D 5K
C519	B C 6K
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C528	B C 7M
C529	B C 6N
C530	B C 6N
C531	B C 8M
C532	B C 8M
C534	B C 6N
C535	A D 6N
C536	B C 7N
C537	B C 6L
C539	B C 8L
C582	B C 8P
C583	B C 7N
C584	B C 7O
C585	B C 7N
C586	B C 7O
C587	B C 7O
C588	B C 7O
C589	B C 7P
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C2005	A D 15N
C2006	B C 15N
C2007	A D 15O
C2008	A D 14O
C2009	B C 14N
C2010	B C 14N
C2011	A D 14N
C2012	A D 13M
C2013	B C 14N
C2051	B C 9N
C2052	A D 18L
C2053	B C 9N
C2054	B C 9N
C2055	A D 8N
C2201	A D 17M
C2202	A D 17M
C2203	A D 17L
C2204	A D 17M
C2205	A D 16M
C2206	A D 17M
C2207	B C 16M
C2208	B C 15K
C2209	A D 15K
C2210	A D 15K
C2211	A D 15K
C2212	A D 16I
C2213	B C 16J
C2214	A D 18I
C2215	A D 17J
C2216	A D 17J
C2217	B C 17J
C2218	A D 18J
C2219	A D 18J
C2220	A D 17J
C2221	B C 18K
C2222	B C 17I
C2223	B C 16M
C2224	B C 15J
C2225	B C 18L
C2226	B C 18L
C2227	A D 16J
C2228	B C 19J
C2229	B C 18K
C2230	A D 17K
C2231	A D 18K
C2232	B C 15J
C2233	B C 16J
C2251	B C 16M
C2252	B C 16M
C2253	B C 16L
C2254	A D 15L
C2255	B C 16L
C2256	B C 16L
C2257	B C 15K
C2258	B C 15J
C2259	A D 15K
C2261	B C 16L
C2262	B C 16L
C3004	B C 3G
C3008	B C 19J
C3011	A D 4D
C3012	A D 2E
C3013	B C 2E
C3014	A D 12C
C3016	B C 12C
C3021	A D 7C
C3022	B C 7C
C3024	B C 14D
C3025	A D 14D
C3030	A D 15D
C3031	B C 15D
C3033	B C 13F
C3036	B C 14D
C3037	B C 14D
C3041	B C 14D
C3045	B C 19I
C3046	B C 4J
C3047	B C 10E
C3048	B C 11E
C3050	B C 14D
C3051	B C 16F
C3052	A D 15D
C3053	B C 15D
C3054	B C 14C
C3055	B C 14C
C3056	B C 7K
C3057	B C 15D
C3070	B C 19I
C3071	A D 6K
C3072	B C 11D
C3073	A D 15C
C3074	B C 14E
C3076	B C 15F
C3077	B C 12C
C3078	B C 12C
C4001	A D 14F
C4002	B C 11F
C4003	B C 12F
C4004	A D 14F
C4005	B C 13G
C4006	A D 14F
C4007	B C 12F
C4008	A D 13F
C4009	B C 11F
C4010	B C 13G
C4011	B C 13F
C4012	A D 14F
C4014	B C 15F
C4015	B C 12F
C4016	B C 14F
C4031	A D 6K
C5001	A D 2P
C5002	A D 2N
C5004	A D 1J
C5006	A D 2M
C5101	A D 2M
C5102	A D 1K
C5103	B C 3L
C5104	A D 4M
C5105	A D 3L
C5106	A D 3J
C5107	A D 3L
C5202	A D 3G
C5203	A D 2H
C5204	A D 3H
C5206	A D 1F
C5207	A D 3G
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C5304	A D 4H
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C6014	B C 22O
C6016	B C 22O
C6020	B C 22N
C6021	B C 22N
C6027	B C 22L
C6028	B C 22L
C6032	B C 21J
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C6055	B C 22O
C6056	B C 22P
C6501	A D 19E
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C6703	B C 21G
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C6706	B C 21E
C6707	B C 21F
C6708	B C 21F
C6709	B C 21F
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C6711	B C 20G
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C6719	A D 20D
C6720	A D 21D
C6721	B C 21D
C6722	A D 21E
C6723	B C 21E
C6724	A D 21E
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C7011	A D 9A
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C7013	B C 17A
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C7109	B C 18P
C7110	B C 18P
C7111	B C 17P
C7112	B C 17P
C7114	A D 19P
C7119	B C 21P
C7120	B C 21P
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C7125	A D 9P
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C7140	B C 19M
C7143	B C 12P
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C7145	B C 12O
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C7154	B C 10O
C7155	B C 10P
C7156	A D 10P
C7157	A D 10O
C7158	A D 11O
C7159	A D 12O
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C7165	B C 19A
C7168	B C 18P
C7169	B C 18P
C7170	B C 13P
C7171	B C 13P
C7182	B C 17P
C7183	B C 18P
C7184	B C 13P
C7185	B C 13P
C7191	B C 20O
C7192	B C 20O
C7195	B C 18A
C7196	B C 20A
C7197	B C 19O
C7201	A D 21C
CONNECTOR	
CN1	A D 16M
CN2	A D 22F
CN512	A D 20M
CN2001	A D 9O
CN2002	A D 19L
CN3001	A D 7L
CN3007	A D 22C
CN3901	A D 16B
CN5001	A D 1P
CN7001	A D 1C
CN7004	A D 20C
CN7005	A D 12A
CN7102	A D 22H
CN7106	A D 18O
CP3001	A D 4F
CP3002	B C 4F
CP4001	A D 4G
CP4002	B C 4G
DIODE	
D3	A D 10M
D4	A D 11M
D201	A D 11F
D2001	A D 15N
D2251	A D 15J
D3001	A D 12H
D3002	A D 3D
D3003	A D 3E
D3004	A D 3E
D3005	A D 2E
D3007	A D 16A
D3008	A D 14C
D4001	B C 13F
D4002	B C 14F
D5001	B C 2M
D5101	A D 1M
D5102	A D 2K
D5103	A D 3K
D5105	A D 3K
D5203	A D 2I
D5204	A D 3I
D5206	A D 2H
D5207	A D 2I
D5208	A D 2I
D5209	A D 2H
D5210	A D 3I
D5301	A D 3H
D5302	A D 3G
D5303	A D 4G
D5305	A D 2F
D6002	A D 21L
D6701	A D 19F
D7003	A D 8A
D7004	A D 20C
D7005	A D 19C
D7101	A D 16O
D7102	A D 17O
D7103	A D 9P
D7104	A D 9P
D7105	A D 10P
D7106	A D 18P
DI7001	A D 12A
IC	
IC1	B C 13L
IC2201	B C 16K
IC251	A D 5C
IC3001	B C 12D
IC3002	B C 14D
IC3003	B C 7B
IC501	B C 7M
IC6701	B C 20E
IC7002	A D 8A
IC7101	B C 9P
IC7102	B C 10P
IC7103	B C 12O
IC7104	B C 19N
IC7105	B C 19M
COIL	
L1	A D 12M
L2	A D 11M
L3	A D 10L
L5	A D 12K
L6	A D 13J
L7	A D 13K
L9	A D 10J
L10	A D 14M
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L14	A D 11K
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L201	A D 11G
L202	A D 9F
L203	A D 9F
L204	A D 11G
L205	A D 10E
L251	A D 5C
L252	A D 7D
L253	A D 5C
L501	A D 5K
L502	A D 5N
L503	A D 6N
L505	A D 8M
L506	A D 8M
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L6701	A D 21G
L6702	A D 21G
L7101	A D 13P
L7102	A D 17P
L7105	A D 20M
L7107	A D 19N
L7108	A D 19M
L7109	A D 10O
L7110	A D 13O
L7113	A D 20O
L7114	A D 20O
L7201	A D 21B
TRANSISTOR	
Q1	B C 11N
Q2	B C 11K
Q3	B C 12K
Q4	B C 14J
Q6	B C 10J
Q7	B C 15M
Q8	B C 15M
Q9	B C 15M
Q10	B C 16M
Q11	B C 9J
Q12	B C 14K
Q13	B C 10J
Q15	B C 11K
Q16	B C 10J
Q17	B C 11K
Q201	B C 11E
Q202	B C 10F
Q203	B C 9E
Q581	B C 7O
Q582	B C 7P
Q583	B C 8O
Q584	B C 8P
Q2001	B C 9M
Q2002	B C 9L
Q2003	B C 9L
Q2051	B C 9N
Q2052	B C 9K
Q2053	B C 9J
Q2054	B C 9K
Q2055	B C 9L
Q2201	B C 17I
Q2202	B C 18I
Q2203	B C 18J
Q2204	B C 18J
Q2251	B C 15I
Q2252	B C 15J
Q2253	B C 15J
Q2254	B C 15J
Q2255	B C 15J
Q3002	A D 5I
Q3003	A D 19I
Q3004	B C 4E
Q3005	B C 2E
Q3007	B C 14C
Q3901	B C 16B
Q4001	B C 13G
Q5101	A D 2L
Q5102	A D 3M
Q5301	A D 4G
Q5303	A D 1F
Q5304	A D 3G
Q5305	B C 3G
Q5306	B C 4G
Q5307	A D 2E
Q5321	A D 1F
Q6030	B C 21K
Q6031	B C 21K
Q6032	B C 21J
Q6701	B C 20G
Q7001	B C 10A
Q7002	B C 10A
Q7003	B C 10A
Q7004	B C 11A
Q7005	B C 11A
Q7006	B C 11A
Q7007	B C 11A
Q7008	B C 11B
Q7009	B C 12B
Q7010	B C 12B
Q7011	B C 13B
Q7012	B C 13B
Q7013	B C 13B
Q7014	B C 14A
Q7016	B C 12B
Q7101	B C 16P
Q7102	B C 16P
Q7103	B C 17O
Q7104	B C 17P
Q7105	B C 17O
Q7106	B C 19N
Q7107	B C 19O
Q7201	A D 21C
RISISTOR	
R1	B C 12M
R2	B C 12N
R3	B C 11N
R4	B C 12N
R5	B C 12N
R6	B C 11L
R7	B C 10K
R11	B C 14L
R12	B C 14K
R14	B C 14K
R17	B C 13J
R18	B C 13K
R20	B C 12J
R21	B C 16M
R22	B C 16M
R23	B C 10J
R24	B C 10K
R25	B C 9J
R26	B C 10J
R28	B C 9J
R29	B C 9J
R30	B C 10J
R31	B C 13J
R33	B C 12J
R34	B C 12J
R35	B C 11J
R36	B C 15F
R37	B C 14M
R38	A D 11K
R39	B C 10K
R201	B C 11F
R202	B C 11F
R203	B C 11F
R204	B C 11F
R205	B C 8F
R206	A D 9E
R207	B C 11F
R208	B C 11E
R209	B C 9F
R210	B C 9F
R211	B C 10F
R212	B C 10F
R213	B C 9E
R214	B C 10F
R251	B C 5C
R252	B C 7B
R253	B C 6C
R254	B C 6C
R255	B C 6C
R256	B C 6B
R259	B C 5C
R260	A D 7C
R261	A D 7C
R501	B C 6M
R503	B C 5L
R504	B C 6L
R505	B C 6L
R506	B C 5L
R507	B C 6L
R508	B C 6L
R510	B C 7M
R581	B C 7N
R582	B C 7P
R583	B C 7O
R584	B C 7O
R585	B C 8P
R586	B C 7P
R587	B C 7P
R588	B C 7P
R589	B C 8N
R590	B C 8N
R591	B C 8N
R592	B C 8P
R593	B C 8O
R594	B C 8P
R595	B C 8O
R596	B C 8O
R597	B C 8O
R2001	B C 12N
R2003	B C 11N
R2004	B C 11N
R2005	B C 11F
R2006	A D 13N
R2007	B C 12N
R2008	B C 13N
R2009	B C 13N
R2010	B C 13N
R2011	A D 13N
R2012	B C 13N
R2013	B C 14N
R2014	B C 14N
R2015	B C 15N
R2016	B C 14N
R2017	B C 14N
R2018	B C 9L
R2019	B C 9L
R2021	B C 15N
R2022	B C 15N
R2023	B C 14M
R2024	A D 13N
R2052	B C 9O
R2053	B C 9O
R2054	B C 9M
R2055	B C 9N
R2056	A D 10N
R2057	B C 9K
R2058	B C 9K
R2059	B C 9K
R2060	B C 9K
R2201	B C 17L
R2202	B C 17L
R2203	B C 17L
R2204	B C 17L
R2205	B C 17L
R2206	B C 17L
R2207	B C 17L
R2208	B C 16L
R2209	B C 18J
R2210	B C 18I
R2211	B C 18I
R2212	B C 18J
R2213	B C 18I
R2214	B C 17J
R2215	A D 17I
R2216	B C 18J
R2217	B C 18J
R2218	B C 18K
R2219	B C 18K
R2220	B C 17I
R2222	B C 16M
R2223	B C 16M
R2224	B C 16J
R2225	B C 15J
R2226	B C 17L
R2227	B C 18L
R2228	B C 17L
R2229	B C 17L
R2230	B C 18K
R2231	B C 15K
R2232	B C 15K
R2233	B C 15K
R2234	B C 18J
R2235	B C 18K
R2236	B C 18K
R2237	B C 18K
R2238	B C 18K
R2239	B C 15I
R2240	B C 15I
R2241	B C 15I
R2242	A D 15I
R2243	B C 16J
R2244	B C 15J
R2245	B C 15K
R2246	B C 15J
R2247	B C 15J
R2248	B C 15K
R2249	B C 15K
R2250	B C 15K
R2251	B C 15K
R2252	B C 15K
R2253	B C 15J
R2254	A D 15I
R2255	B C 16J
R2256	B C 15J
R2257	B C 15K
R2258	B C 5C
R2259	B C 5C
R2260	A D 7C
R2261	A D 7C
R2501	B C 8O
R2502	B C 8P
R2503	B C 5L
R2504	B C 6L
R2505	B C 6L
R2506	B C 5L
R2507	B C 6L
R2508	B C 6L
R2509	B C 7M
R2510	B C 7P
R2511	B C 7N
R2512	B C 7P
R2513	B C 7O
R2514	B C 7O
R2515	B C 8N
R2516	B C 8N
R2517	B C 8N
R2518	B C 8P
R2519	B C 8O
R2520	B C 8O
R2521	B C 8O
R2522	B C 8P
R2523	B C 8O
R2524	B C 8O
R2525	B C 8O
R2526	B C 8O
R2527	B C 8O
R2528	B C 8O
R3089	B C 16E
R3090	B C 15E
R3091	B C 16E
R3092	B C 15E
R3093	B C 16E
R3094	B C 15E
R3095	B C 15E
R3096	B C 14E
R3097	B C 14E
R3098	B C 14E
R3099	B C 13E
R3100	B C 14E
R3101	B C 14E
R3102	B C 15F
R3205	B C 12H
R3206	B C 5H
R3207	B C 19I
R3208	B C 16F
R3209	B C 16F
R3210	B C 9F
R3211	B C 9F
R3212	B C 4E
R3213	B C 4D
R3214	B C 8C
R3215	B C 8C
R3216	B C 8C
R3217	B C 8C
R3218	A D 3E
R3219	B C 3E
R3220	B C 4D
R3221	A D 4D
R3222	B C 3E
R3223	B C 7C
R3224	B C 8C
R3225	B C 18C
R3229	B C 13D
R3232	B C 11E
R3234	A D 15B
R3235	B C 18F
R3236	B C 18F
R3237	B C 10D
R3240	A D 6F
R3242	B C 9E
R3244	B C 17E
R3245	B C 8B
R3246	B C 15D
R3248	B C 15D
R3249	B C 15D
R3252	B C 7K
R3253	A D 7K
R3254	B C 6J
R3255	A D 8D
R3256	B C 15A
R4001	A D 15F
R4003	B C 12F
R4004	B C 12F
R4005	B C 13F
R4006	B C 12F
R4007	B C 11F
R4008	B C 11F
R4009	B C 13F
R4010	B C 14F
R4012	B C 13F
R4013	B C 13F
R4015	B C 14F
R4016	B C 13F
R4017	B C 15F
R4020	A D 15F
R4021	B C 15F
R5101	A D 4M
R5102	A D 4M
R5103	A D 3M
R5104	A D 1L
R5106	A D 2L
R5107	A D 3K
R5108	B C 3L
R5109	A D 3M
R5110	B C 3L
R5111	B C 3K
R5112	B C 3K
R5302	B C 5F
R5303	B C 5F
R5304	A D 2H
R5306	B C 1F
R5310	B C 3H
R5312	B C 4H
R5313	B C 3G
R5319	B C 2D
R5332	A D 2F
R5333	A D 3F
R6020	B C 21N
R6021	B C 21N
R6030	B C 21K
R6031	B C 21K
R6032	B C 22L
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R6051	B C 21O
R6052	B C 21O
R6054	B C 21P
R6056	B C 21P
R6080	B C 21N
R6701	B C 21G
R6702	B C 21G
R6703	B C 21G
R6704	B C 21G
R6705	B C 20G
R6706	B C 20G
R6707	B C 21F
R6708	B C 19F
R6709	B C 19F
R6710	B C 19F
R6711	A D 19E
R6712	B C 19E
R6713	B C 19D
R6714	B C 20E
R6715	B C 20D
R6716	A D 20D
R6719	B C 20F
R6720	A D 20D
R6721	B C 21D
R7001	B C 12A
R7002	B C 12A
R7003	B C 12A
R7004	B C 13A
R7005	B C 13A
R7006	B C 13A
R7007	B C 13A
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R7011	B C 12A
R7015	B C 8A
R7020	B C 17B
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R7022	B C 17B
R7023	B C 7B
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R7033	B C 4B
R7034	B C 16B
R7035	B C 3B
R7036	B C 3A
R7037	B C 3A
R7101	B C 16O
R7102	B C 16P
R7103	A D 17P
R7105	B C 13P
R7106	B C 14P
R7107	B C 14P
R7108	B C 11P
R7109	B C 11P
R7110	B C 13P
R7111	B C 13P
R7113	B C 15P
R7114	B C 17Q
R7116	B C 18P
R7117	A D 19P
R7119	B C 18P
R7120	B C 18P
R7121	B C 20P
R7122	B C 20O
R7123	B C 19O
R7125	B C 10P
R7126	B C 9P
R7127	B C 19O
R7128	B C 19O
R7129	B C 19O
R7131	B C 19N
R7132	B C 20O
R7133	A D 19O
R7134	B C 19O
R7135	B C 19O
R7138	B C 16P
R7139	A D 18M
R7140	B C 19N
R7141	B C 12P
R7144	B C 17O
R7145	B C 17O
R7146	B C 17O
R7147	B C 17O
R7148	B C 17O
R7151	B C 19P
R7152	B C 19P
R7153	B C 20P
R7160	B C 18B
R7161	B C 20A
R7162	B C 19A
R7163	B C 21B
R7167	B C 18O
R7182	B C 10P
R7183	B C 11P
R7184	B C 12P
R7201	A D 22C
R7202	B C 21C
R7203	B C 22C
TEST POINT	
TP106	A D 6P
TP111	A D 5P
TP2253	A D 6P
TP2254	A D 7P
TP4001	A D 6P
TP7001	A D 3A
TPGND	A D 4A
OTHER	
BT3001	A D 3C
F5001	A D 2P
FC5001	A D 2P
FC5002	A D 3P
FW7106	A D 4C
J7101	A D 16P
J7102	A D 12P
J7103	A D 21Q
J7104	A D 20Q
J7105	A D 20A
J7108	A D 19O
JS3001	A D 8G
K2001	B C 14N
K2002	B C 14N
K2003	B C 9O
K2004	B C 9O
K2251	B C 16L
K2252	B C 16L
K2253	B C 15L
K5101	A D 2K
K5102	A D 1N
K6701	B C 21F
K6702	B C 21F
K6703	B C 20F
K6704	B C 20F
K6705	B C 19F
K6706	B C 21D
K6707	B C 22E
LF5001	A D 4P
LF5002	A D 3N
PC04042	A D 21F
PC3001	A D 15F
PC3002	A D 9F
PC5101	A D 4K
S3001	A D 18C
S3002	A D 4E
S7001	A D 22B
S7002	A D 18B
S7003	A D 16B
S7004	A D 7B
S7005	A D 6B
S7006	A D 6B
S7008	A D 5B
S7010	A D 4B
S7011	A D 4B
S7012	A D 3B
S7013	A D 2B
S7014	A D 2B
S7015	A D 1B
S7016	A D 17B
S7017	A D 16B
S7018	A D 9B
T2051	A D 9N
T5001	A D 3I
TU6001	A D 22P
VA5003	A D 2O
VR2251	A D 20H
X1	A D 14L
X2	A D 14K
X201	A D 9E
X3001	A D 14D
X3002	A D 14D
X6701	A D 21F

■ MAIN CIRCUIT BOARD

<03> MAIN
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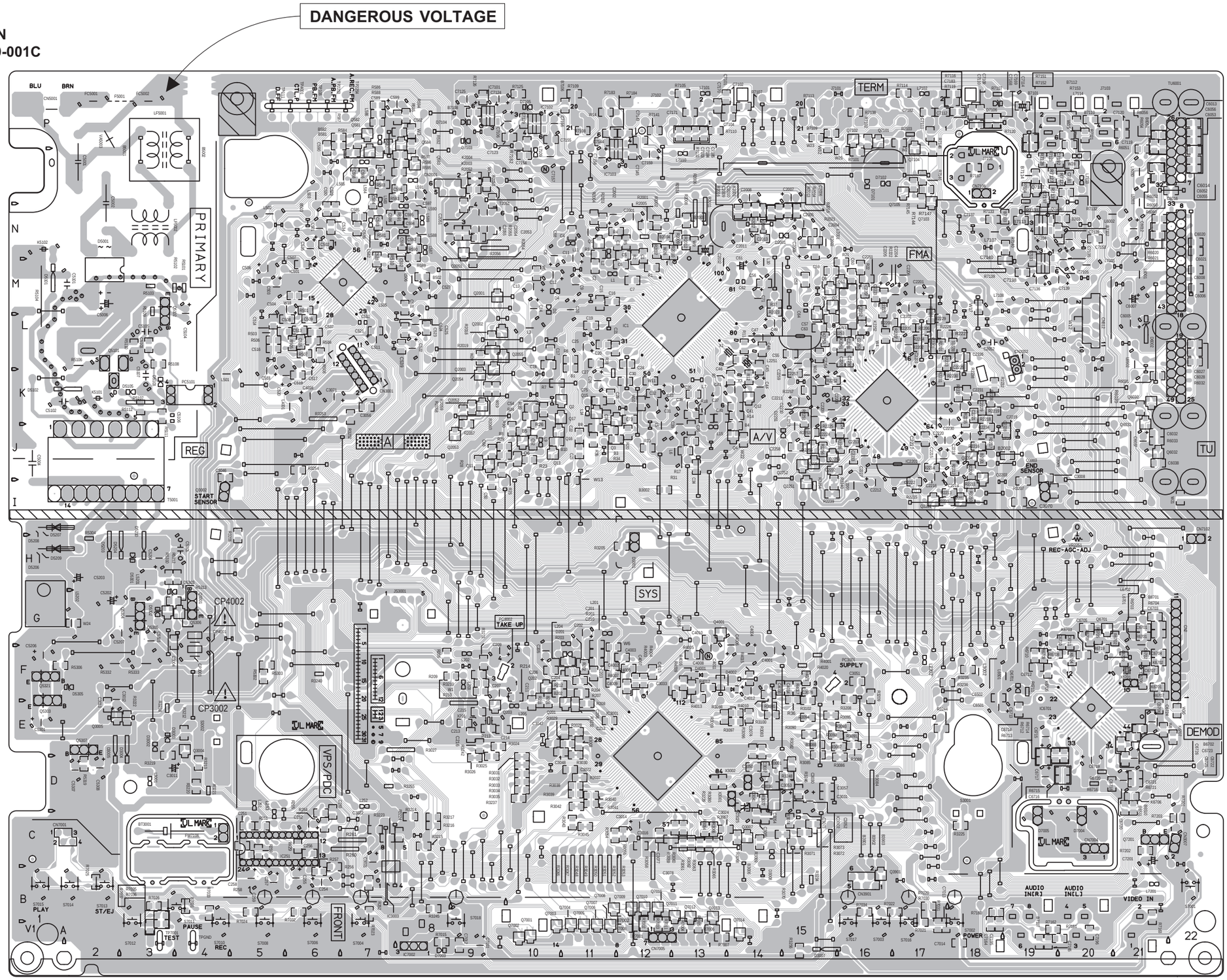
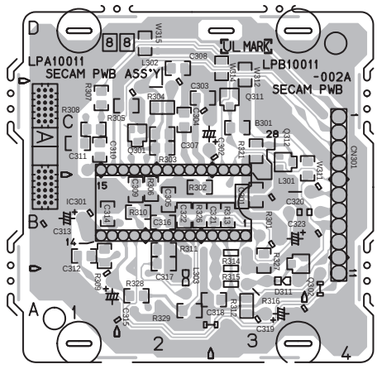
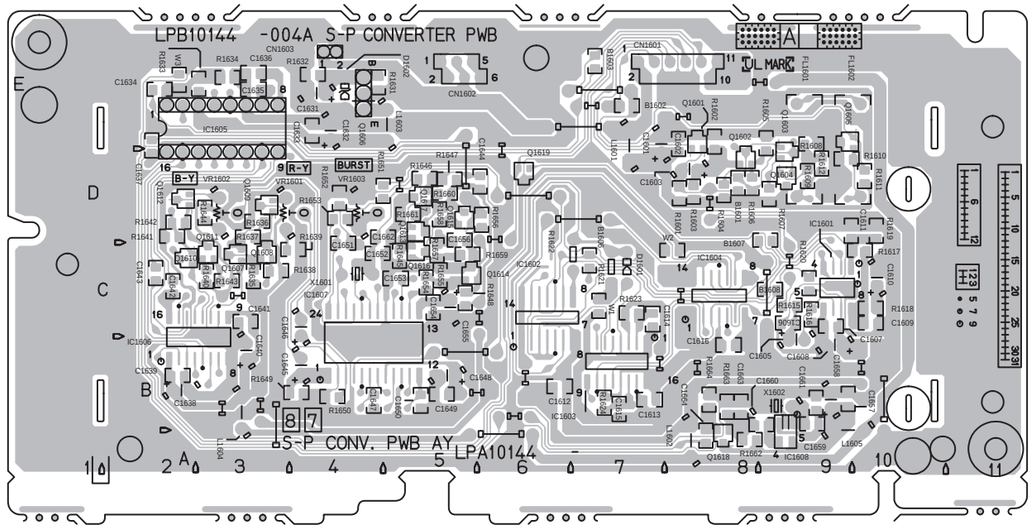


■ S-P CONVERTER AND SECAM CIRCUIT BOARDS [HR-S5965EF]

<88> SECAM
LPB10011-002A



<87> S-P CONVERTER
LPB10144-004A



COMPONENT PARTS LOCATION GUIDE <S-P CONVERTER> LPB10144-004A

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C1647	B C 4B	IC1604	B C 8C	Q1619	B C 6D	R1638	B C 3C	VR1602	A D 3D
C1601	A D 7D	C1648	A D 5B	IC1605	A D 2E			R1639	B C 4C	VR1603	A D 4D
C1602	B C 8D	C1649	B C 5B	IC1606	B C 3B	**RESISTOR**		R1640	B C 3C	X1601	A D 4C
C1603	A D 8D	C1650	B C 5B	IC1607	B C 4B	R1601	B C 8D	R1641	B C 2C	X1602	A D 9B
C1605	A D 9B	C1651	B C 4C	IC1608	B C 9A	R1602	B C 8D	R1642	B C 2D		
C1606	B C 9B	C1652	B C 4C			R1603	B C 8D	R1643	B C 3C		
C1607	B C 9B	C1653	B C 5C	**COIL**		R1604	B C 8D	R1644	B C 3D		
C1608	A D 9B	C1654	B C 5C	L1601	A D 7E	R1605	B C 9D	R1645	B C 5C		
C1609	B C 10B	C1655	A D 5C	L1602	A D 8A	R1606	B C 8D	R1646	B C 5D		
C1610	A D 10C	C1656	B C 5C	L1603	A D 5E	R1607	B C 9D	R1647	B C 5D		
C1611	B C 9C	C1657	B C 9B	L1604	A D 3B	R1608	B C 9D	R1648	B C 5C		
C1612	B C 6B	C1658	A D 9B	L1605	A D 10A	R1609	B C 9D	R1649	B C 4B		
C1613	B C 7B	C1659	B C 9A			R1610	B C 9D	R1650	B C 4B		
C1614	B C 7B	C1660	B C 9A	**TRANSISTOR**		R1611	B C 10D	R1651	B C 5D		
C1615	B C 7B	C1661	B C 9B	Q1601	B C 8D	R1612	B C 9D	R1652	B C 4D		
C1616	B C 8B	C1662	B C 5C	Q1602	B C 8D	R1615	B C 9C	R1653	B C 4D		
C1631	A D 4E	C1663	B C 8B	Q1603	B C 9D	R1616	B C 9C	R1654	B C 5C		
C1632	A D 4D	C1664	B C 8A	Q1604	B C 9D	R1617	B C 10C	R1655	B C 5C		
C1633	B C 4D			Q1605	B C 9D	R1618	B C 10C	R1656	B C 6D		
C1634	B C 2E	**CONNECTOR**		Q1606	A D 4E	R1619	B C 10C	R1657	B C 5C		
C1635	B C 3E	CN1601	A D 7E	Q1607	B C 3C	R1620	B C 9C	R1658	B C 5D		
C1636	B C 3E	CN1602	A D 5E	Q1608	B C 3C	R1621	A D 7C	R1659	B C 5C		
C1637	B C 2D	CN1603	A D 4E	Q1609	B C 3D	R1622	A D 7C	R1660	B C 5D		
C1638	A D 2B			Q1610	B C 2C	R1623	B C 7C	R1661	B C 5D		
C1639	B C 2B	**DIODE**		Q1611	B C 3C	R1624	B C 7B	R1662	B C 8A		
C1640	A D 3B	D1601	A D 7C	Q1612	B C 2D	R1631	B C 4E	R1663	B C 8B		
C1641	B C 3B	D1602	A D 4E	Q1613	B C 5C	R1632	B C 4E	R1664	B C 8B		
C1642	B C 2C			Q1614	B C 5C	R1633	B C 3E				
C1643	B C 2C	**IC**		Q1615	B C 5D	R1634	B C 3E	**OTHER**			
C1644	B C 6D	IC1601	B C 9C	Q1616	B C 5C	R1635	B C 3C	FL1601	A D 9D		
C1645	A D 4B	IC1602	B C 6C	Q1617	B C 5D	R1636	B C 3D	FL1602	A D 10E		
C1646	A D 4B	IC1603	B C 7B	Q1618	B C 8A	R1637	B C 3C	VR1601	A D 3D		

<SECAM> LPB10011-002A

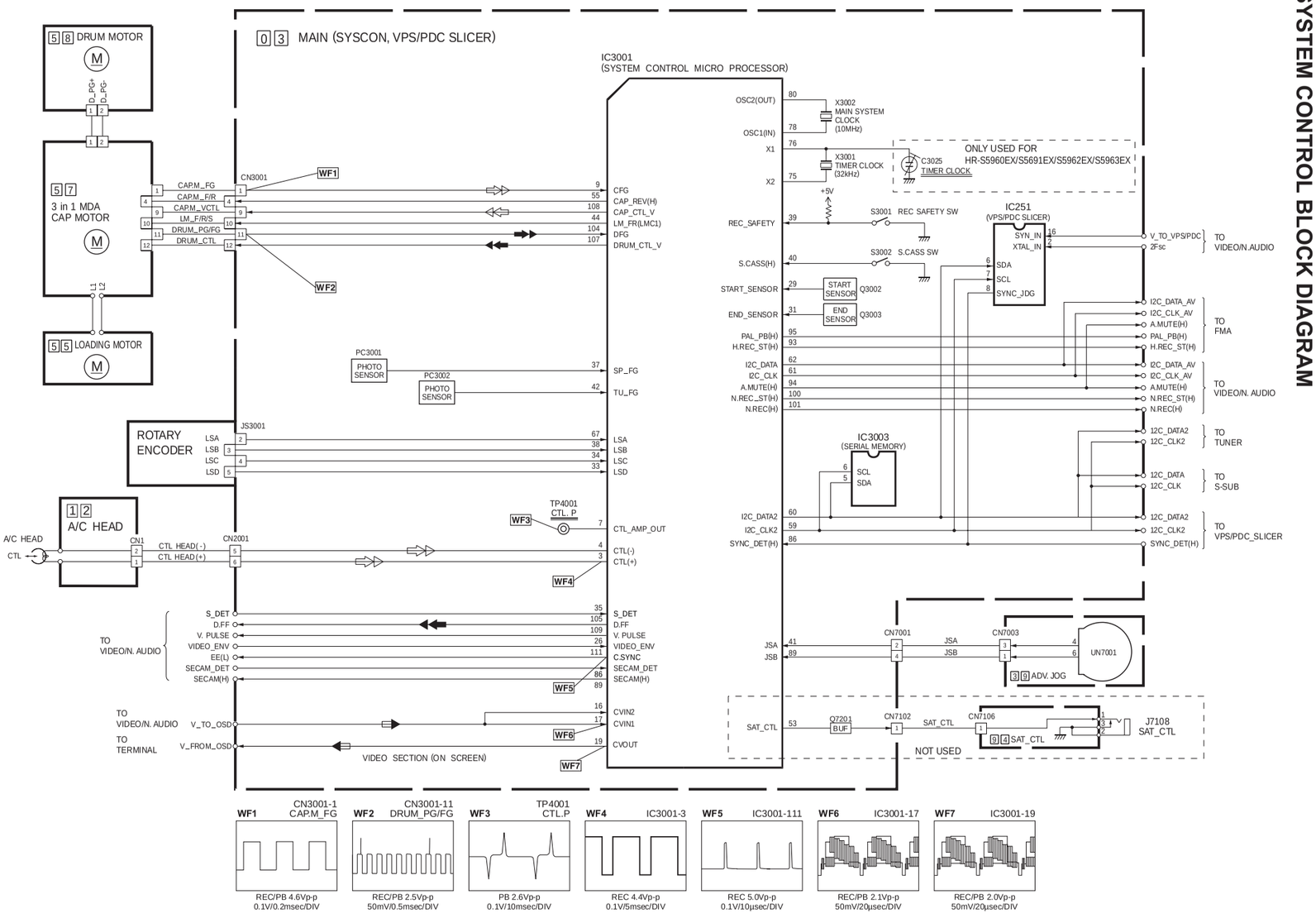
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR				R328	B C 2A
C301	B C 3B	**COIL**		R329	B C 2A
C302	A D 2C	L301	A D 4B		
C303	B C 2C	L302	A D 2C		
C304	B C 2C	L303	A D 2B		
C305	B C 2B				
C307	B C 2C	**TRANSISTOR**			
C308	B C 2D	Q301	B C 2C		
C309	B C 2B	Q302	B C 3B		
C310	B C 1C	Q311	B C 3C		
C311	B C 1C	Q312	B C 3C		
C312	B C 1B				
C313	A D 1B	**RESISTOR**			
C314	B C 1B	R301	B C 3B		
C315	A D 1A	R302	B C 2B		
C316	B C 2B	R303	B C 2C		
C317	B C 2B	R304	B C 2C		
C318	B C 3A	R305	B C 2C		
C319	A D 3A	R306	B C 2B		
C320	A D 4B	R307	B C 1C		
C321	B C 3B	R308	B C 1C		
C322	B C 2B	R309	B C 1B		
C323	A D 4B	R310	B C 2B		
		R311	B C 2B		
CONNECTOR		R312	B C 3A		
CN301	A D 4C	R313	B C 3B		
		R314	A D 3B		
DIODE		R315	A D 3B		
D311	A D 3A	R316	A D 3A		
		R321	B C 3C		
IC		R326	B C 2B		
IC301	A D 3B	R327	B C 3B		

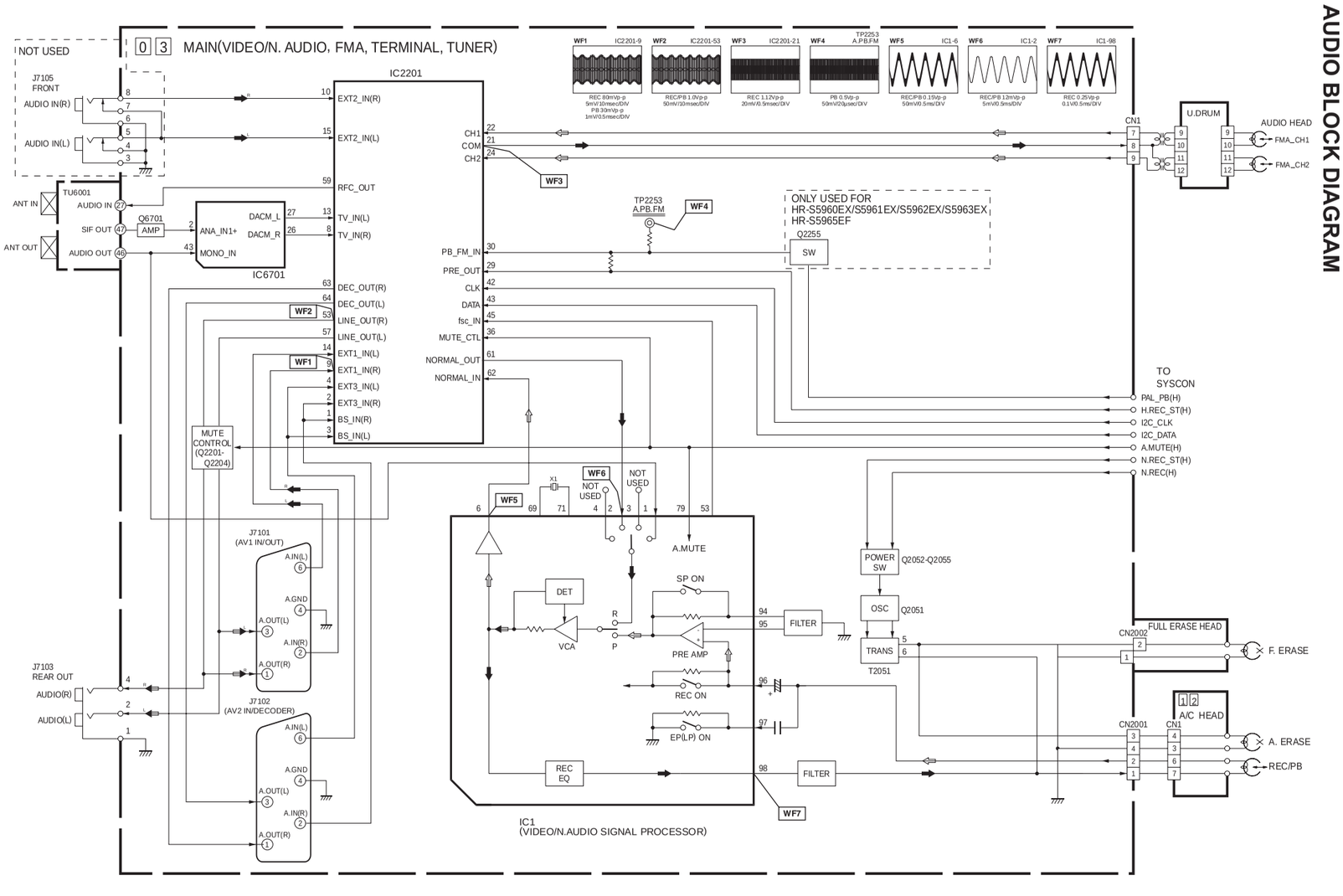
■ CPU PIN FUNCTION

<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	SVss	-	GND
2	CTLREF	-	CTL REFERENCE VOLTAGE
3	CTL(+)	-	CTL(+) SIGNAL
4	CTL(-)	IN/OUT	CTL(-) SIGNAL
5	CTLBIAS	-	CTL BIAS VOLTAGE
6	CTLFB	IN	CTL PULSE FEEDBACK
7	CTLAMPOUT	OUT	CTL PULSE OUTPUT
8	CTLSMTIN	IN	CTL PULSE INPUT
9	CFG	IN	CAPSTAN FG PULSE INPUT
10	SVcc	-	SYSTEM POWER
11	AFCpc	OUT	AFC CLOCK (SYNC SEPARATOR FOR OSD / EXTERNAL CIRCUIT FOR AFC)
12	AFCosc	OUT	AFC CLOCK (SYNC SEPARATOR FOR OSD / EXTERNAL CIRCUIT FOR AFC)
13	AFCLPF	IN	FILTER OUTPUT FOR HORIZONTAL SYNCHRONIZING OF OSD CHARACTER
14	CSYNC/HSYNC	IN	COMPOSITE SYNC/HORIZONTAL SYNC
15	VLPF/VSYNC	-	NC
16	CVIN2	IN	COMPOSITE VIDEO SIGNAL INPUT(2)
17	CVIN1	IN	COMPOSITE VIDEO SIGNAL INPUT(1)
18	OVCC	-	SYSTEM POWER
19	CVOUT	OUT	COMPOSITE VIDEO SIGNAL OUTPUT
20	OVss	-	GND
21	FSCOUT	OUT	FSC OUTPUT FOR OSD
22	FSCIN	IN	FSC INPUT FOR OSD
23	AVss	-	GND FOR ANALOG CIRCUIT
24	AFC	IN	TUNING CHECK
25	RF AGC	IN	CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT
26	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
27	SCR[H]	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
28	KEY2	IN	OPERATION CONTROL SIGNAL
29	START_SENSOR/SECOM_DET	IN	START SENSOR/SECAM COLOR DETECT (SECAM:H)
30	KEY1	IN	OPERATION CONTROL SIGNAL
31	END_SENSOR	IN	END SENSOR
32	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
33	LSD	IN	MECHANISM MODE DETECT (D)
34	LSC	IN	MECHANISM MODE DETECT (C)
35	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
36	AVcc	-	SYSTEM POWER FOR ANALOG CIRCUIT
37	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
38	LSB	IN	MECHANISM MODE DETECT (B)
39	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
40	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
41	JSA	IN	INPUT FOR THE JOG SHUTTLE
42	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
43	SECAM_S.IMPOSE/DIG6	OUT	LED DRIVE
44	LM_FR(LMC1)	OUT	LOADING MOTOR DRIVE
45	P8_CTL2	OUT	PARALLEL CONTROLLER FOR CH+ IC (IN/OUT SWITCH)
46	D_A	OUT	LED DRIVE
47	D_B	OUT	LED DRIVE
48	D_C	OUT	LED DRIVE
49	D_D	OUT	LED DRIVE
50	D_E	OUT	LED DRIVE
51	D_F	OUT	LED DRIVE
52	D_G	OUT	LED DRIVE
53	DIG7/SAT_CTL	OUT	CONTROL SIGNAL FOR SATELLITE RECEIVER/LED DRIVE
54	P.CTL[H]	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
55	CAP_REV[H]	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:L/REV:H)
56	Vcc	-	SYSTEM POWER

PIN NO.	LABEL	IN/OUT	FUNCTION
57	Vss	-	GND
58	DIG5	OUT	LED DRIVE
59	12C_CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
60	12C_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
61	12C_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
62	12C_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
63	DIG4	OUT	LED DRIVE
64	DIG3	OUT	LED DRIVE
65	DIG2	OUT	LED DRIVE
66	DIG1	OUT	LED DRIVE
67	LSA	IN	MECHANISM MODE DETECT (A)
68	P50_OUT/SECAM_S.IMPOSE	OUT	CONTROL SIGNAL FOR TV LINK
69	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
70	P50_IN/AV_IN[H]	IN	CONTROL SIGNAL FOR TV LINK
71	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
72	RC	IN	REMOTE CONTROL DATA INPUT
73	SW2/CH_SW	IN	TUNER SYSTEM MODE:L /CHANNEL SWITCHING SIGNAL
74	FWE	OUT	FLASH WRITE ENABLE
75	X2	-	TIMER CLOCK (32.768KHz)
76	X1	-	TIMER CLOCK (32.768KHz)
77	RES	-	RESET TERMINAL (RESET ON:L)
78	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
79	Vss	-	GND
80	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
81	VCL	-	SYSTEM POWER
82	MODE	-	NC
83	CH-A/CONV_CTL[H]	OUT	AV1 OUTPUT SWITCH CONTROL / R/F CONVERTER ON/OFF CONTROL
84	ET_REC[H]	OUT	ET REC MODE:H
85	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
86	SYNC_DET[H]	IN	DETECTION OF VIDEO SYNC SIGNAL(DETECTED:H)
87	CH+B	OUT	AV2 OUTPUT SWITCH CONTROL
88	MESECAM_DET	OUT	MESECAM:H
89	SECAM[H]/JSB	OUT	SECAM MODE:H
90	P8_CTL1	OUT	PARALLEL CONTROLLER FOR CH+ IC (IN/OUT SWITCH)
91	SP_SHORT[H]	OUT	MODE SELECT/FLYING ERASE ON:H
92	EP_SHORT[H]	OUT	MODE SELECT
93	H.REC_ST[H]	OUT	HiFi AUDIO SOUND RECORDING START
94	A.MUTE[H]	OUT	AUDIO MUTE CONTROL (MUTE:H)
95	PAL_PB[H]	OUT	PAL FM(PB ON:H)
96	YCO	OUT	OSD CHARACTER SIGNAL
97	Y/C_OUT[H]/EE[L]	OUT	Y/C OUTPUT MODE:H / EE MODE:L
98	TU_MUTE[H]	OUT	TUNER VIDEO CONTROL (MUTE:H)
99	R	-	NC
100	N.REC ST[H]	OUT	NORMAL AUDIO SOUND RECORDING START
101	N.REC[H]	OUT	NORMAL AUDIO REC MODE CONTROL SIGNAL (REC:H)
102	SW1	OUT	TUNER SYSTEM MODE:H
103	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
104	DFG	IN	DRUM FG PULSE INPUT
105	D.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
106	A.FF	OUT	AUDIO FF OUTPUT
107	DRUM_CTL_V	OUT	DRUM MOTOR CONTROL
108	CAP_CTL_V	OUT	CAPSTAN MOTOR CONTROL
109	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
110	Vss	-	GND
111	C.SYNC	-	GND
112	Vcc	-	SYSTEM POWER


5 8 DRUM MOTOR
D_FG+
D_FG-
5 7
3 in 1 MDA CAP MOTOR
5 5 LOADING MOTOR
0 3 MAIN (SYSCON, VPS/PDC SLICER)
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CN3001
CAP.M_FG
CAP.M_F/R
CAP.M_VCTL
LM_F/R/S
DRUM_PG/FG
DRUM_CTL
WF1
WF2
CFG
CAP_REV(H)
CAP_CTL_V
LM_FR(LMC1)
DFG
DRUM_CTL_V
PC3001
PHOTO SENSOR
PC3002
PHOTO SENSOR
SP_FG
TU_FG
ROTARY ENCODER
JS3001
LSA
LSB
LSC
LSD
1 2 A/C HEAD
A/C HEAD
CN1
CN2001
CTL HEAD(-)
CTL HEAD(+)
TP4001 CTL_P
WF3
WF4
CTL_AMP_OUT
CTL(-)
CTL(+)
TO VIDEO/N. AUDIO
S_DET
D.FF
V. PULSE
VIDEO_ENV
EE(L)
SECAM_DET
SECAM(H)
WF5
C.SYNC
TO VIDEO/N. AUDIO
V_TO_OSD
TO TERMINAL
V_FROM_OSD
CVIN2
CVIN1
CVOUT
WF6
WF7
VIDEO SECTION (ON SCREEN)
OSC2(OUT)
OSC1(IN)
X1
X2
X3002 MAIN SYSTEM CLOCK (10MHz)
X3001 TIMER CLOCK (32kHz)
C3025 TIMER CLOCK
ONLY USED FOR HR-S5960EX/S5691EX/S5962EX/S5963EX
+5V
REC_SAFETY
S3001 REC SAFETY SW
S.CASS(H)
S3002 S.CASS SW
START_SENSOR
START SENSOR Q3002
END_SENSOR
END SENSOR Q3003
PAL_PB(H)
H.REC_ST(H)
I2C_DATA
I2C_CLK
A.MUTE(H)
N.REC_ST(H)
N.REC(H)
SYNC_DET(H)
IC251
(VPS/PDC SLICER)
SYN_IN
XTAL_IN
SDA
SCL
SYNC_JDG
V_TO_VPS/PDC
2Fsc
TO VIDEO/N.AUDIO
I2C_DATA_AV
I2C_CLK_AV
A.MUTE(H)
PAL_PB(H)
H.REC_ST(H)
TO FMA
I2C_DATA_AV
I2C_CLK_AV
A.MUTE(H)
N.REC_ST(H)
N.REC(H)
TO VIDEO/N. AUDIO
IC3003
(SERIAL MEMORY)
SCL
SDA
I2C_DATA2
I2C_CLK2
TO TUNER
I2C_DATA
I2C_CLK
TO S-SUB
I2C_DATA2
I2C_CLK2
SYNC_DET(H)
TO VPS/PDC_SLICER
JSA
JSB
CN7001
CN7003
UN7001
9 6 ADV. JOG
SAT_CTL
Q7201 BUF
CN7102
CN7106
9 4 SAT_CTL
J7108 SAT_CTL
NOT USED
WF1 CN3001-1 CAP.M_FG
REC/PB 4.6Vp-p 0.1V/0.2msec/DIV
WF2 CN3001-11 DRUM_PG/FG
REC/PB 2.5Vp-p 50mV/0.5msec/DIV
WF3 TP4001 CTL.P
PB 2.6Vp-p 0.1V/10msec/DIV
WF4 IC3001-3
REC 4.4Vp-p 0.1V/5msec/DIV
WF5 IC3001-111
REC 5.0Vp-p 0.1V/10µsec/DIV
WF6 IC3001-17
REC/PB 2.1Vp-p 50mV/20µsec/DIV
WF7 IC3001-19
REC/PB 2.0Vp-p 50mV/20µsec/DIV


NOT USED
0 3 MAIN(VIDEO/N. AUDIO, FMA, TERMINAL, TUNER)
J7105 FRONT
AUDIO IN(R)
AUDIO IN(L)
IC2201
EXT2_IN(R)
EXT2_IN(L)
RFC_OUT
TV_IN(L)
TV_IN(R)
DEC_OUT(R)
DEC_OUT(L)
LINE_OUT(R)
LINE_OUT(L)
EXT1_IN(L)
EXT1_IN(R)
EXT3_IN(L)
EXT3_IN(R)
BS_IN(R)
BS_IN(L)
CH1
COM
CH2
PB_FM_IN
PRE_OUT
CLK
DATA
fsc_IN
MUTE_CTL
NORMAL_OUT
NORMAL_IN
TU6001
ANT IN
ANT OUT
AUDIO IN
SIF OUT
AUDIO OUT
Q6701 AMP
IC6701
ANA_IN1+
MONO_IN
DACM_L
DACM_R
MUTE CONTROL (Q2201-Q2204)
WF1 IC2201-9
WF2 IC2201-53
WF3 IC2201-21
WF4 TP2253 A.PB.FM
WF5 IC1-6
WF6 IC1-2
WF7 IC1-98
REC 80mVp-p 5mV/10msec/DIV PB 30mVp-p 1mV/0.5msec/DIV
REC/PB 1.0Vp-p 50mV/20msec/DIV
REC 1.12Vp-p 20mV/0.5msec/DIV
PB 0.5Vp-p 50mV/20µsec/DIV
REC/PB 0.15Vp-p 5mV/0.5ms/DIV
REC/PB 1.2mVp-p 5mV/0.5ms/DIV
REC 0.25Vp-p 0.1V/0.5ms/DIV
TP2253 A.PB.FM
ONLY USED FOR HR-S5960EX/S5961EX/S5962EX/S5963EX HR-S5965EF
Q2255 SW
U.DRUM
AUDIO HEAD
FMA_CH1
FMA_CH2
TO SYSCON
PAL_PB(H)
H.REC_ST(H)
I2C_CLK
I2C_DATA
A.MUTE(H)
N.REC_ST(H)
N.REC(H)
J7101 (AV1 IN/OUT)
J7102 (AV2 IN/DECODER)
J7103 REAR OUT
AUDIO(R)
AUDIO(L)
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
WF5
WF6
NOT USED
A.MUTE
SP ON
DET
VCA
PRE AMP
REC ON
EP(LP) ON
REC EQ
FILTER
POWER SW Q2052-Q2055
OSC Q2051
TRANS
T2051
FULL ERASE HEAD
CN2002
F. ERASE
A. ERASE
REC/PB
A/C HEAD
CN2001
CN1
WF7
IC1
(VIDEO/N.AUDIO SIGNAL PROCESSOR)

■ VIDEO BLOCK DIAGRAM(1)

WF9 IC501-3
REC 0.52Vp-p
10mV/20µsec/DIV

WF10 IC501-5
REC 0.6Vp-p
20mV/20µsec/DIV

WF11 IC501-12
REC 1.6Vp-p
50mV/20µsec/DIV

WF12 IC501-14
REC/PB 1.45Vp-p
50mV/20µsec/DIV

WF13 IC501-16
REC/PB 2.1Vp-p
50mV/20µsec/DIV

WF14 IC501-36
REC 0.39Vp-p
10mV/20µsec/DIV

WF15 IC501-40
REC 0.72Vp-p
20mV/20µsec/DIV

WF16 IC501-42
PB 1.75Vp-p
50mV/20µsec/DIV

WF17 IC501-43
REC 0.5Vp-p
10mV/20µsec/DIV

WF18 IC501-47
REC 1.7Vp-p
PB 1.6Vp-p
50mV/20µsec/DIV

WF19 IC501-49
REC/PB 0.6Vp-p
20mV/20µsec/DIV

WF20 IC501-52
PB 1.6Vp-p
50mV/20µsec/DIV

WF21 CN512-9 FROM_PS_Y
SECAM REC/PB 0.25Vp-p
10mV/20µsec/DIV

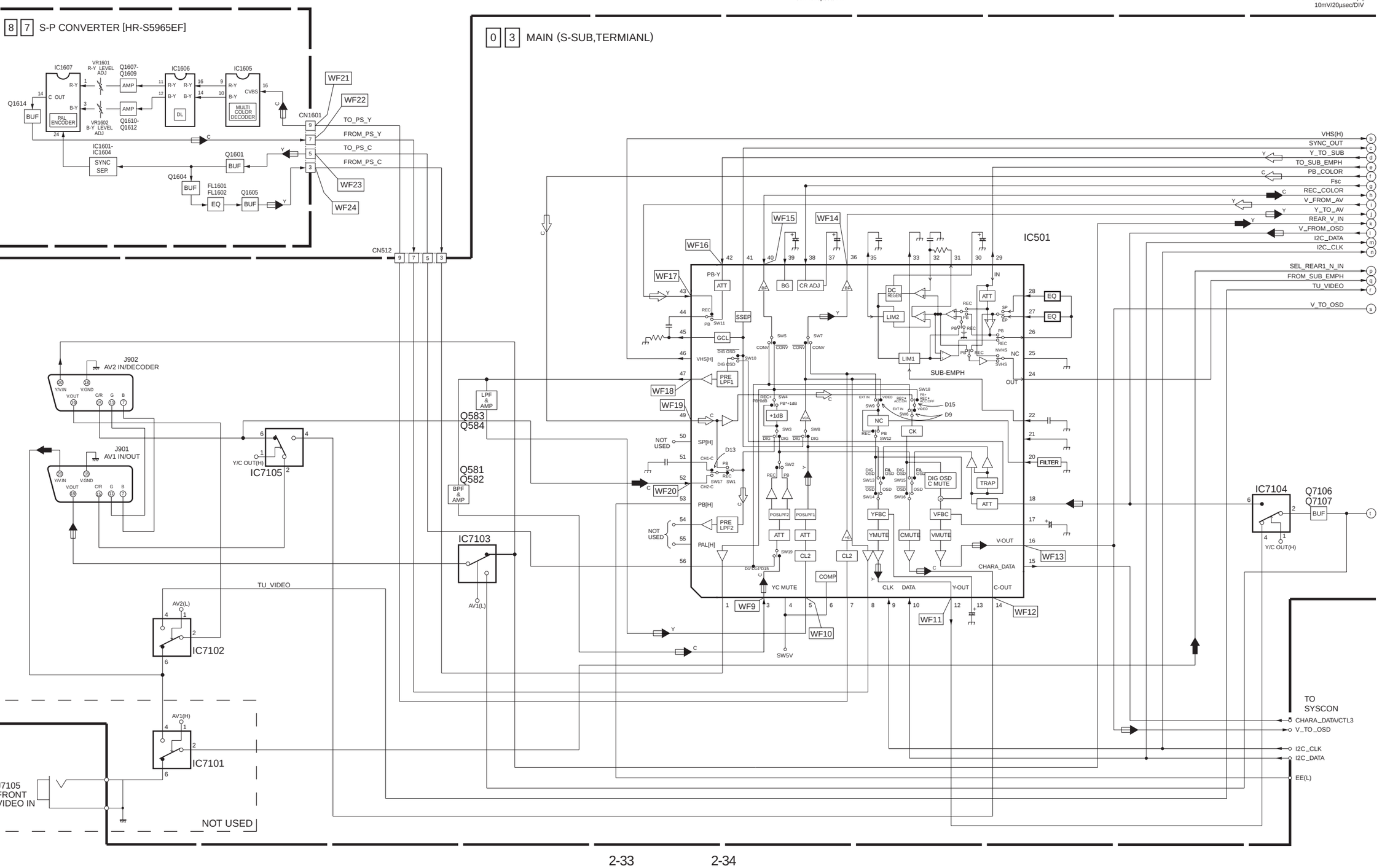
WF22 CN512-7 TO_PS_Y
SECAM REC/PB 1.04Vp-p
50mV/20µsec/DIV

WF23 CN512-5 FROM_PS_C
SECAM REC/PB 0.68Vp-p
20mV/20µsec/DIV

WF24 CN512-3 TO_PS_C
SECAM REC 0.52Vp-p
20mV/20µsec/DIV
SECAM PB 0.34Vp-p
10mV/20µsec/DIV

8 7 S-P CONVERTER [HR-S5965EF]

0 3 MAIN (S-SUB,TERMIANL)



■ VIDEO BLOCK DIAGRAM(2)

WF1 IC1-17
REC 0.72Vp-p
20mV/20μsec/DIV

WF2 IC1-24
REC 0.5Vp-p
10mV/20μsec/DIV

WF3 IC1-26
REC 0.38Vp-p
10mV/20μsec/DIV

WF4 IC1-29
REC 72mVp-p
2mV/20μsec/DIV
PB 1.7Vp-p
50mV/20μsec/DIV

WF5 IC1-43
REC 0.66Vp-p
PB 0.6Vp-p
0.1V/20μsec/DIV

WF6 TP106 PB.FM
PB 0.32Vp-p
20mV/20μsec/DIV

WF7 TP111 D.FF
REC/PB 3.9Vp-p
0.1V/5msec/DIV

WF8 IC1-86
REC 1.6Vp-p
50mV/20μsec/DIV

0 3 MAIN (VIDEO/N. AUDIO, TERMINAL)

8 8 SECAM [HR-S5965EF]

IC301

IC1
(VIDEO & AUDIO
SIGNAL PROCESSOR)

CCD BLOCK
KINSEKI
MSM7470 Series

Q3,Q15 DIFF AMP

Q12 BUF

Q11 BUF

Q16,Q17 SW

Q1 SW

TO TUNER
RF_VIDEO

TO SYSCON
V_FROM_OSD
V.PULSE
S_DET
SB_GAIN
C.SYNC

VHS(H)
SYNC_OUT
Y_TO_SUB
TO_SUB_EMPH
PB_COLOR
Fsc
REC_COLOR
V_FROM_AV
Y_TO_AV
REAR_V_IN
V_FROM_OSD
I2C_DATA
I2C_CLK

SEL_REAR1_V_IN
FROM_SUB_EMPH
TU/BS VIDEO

TO VPS/PDC SLICER
TO FMA/DEMOD
TO SYSCON
TO SYSCON

2Fsc
Fsc
2Fsc
D.FF
2Fsc
EE(L)
SECAM_DET
VIDEO_ENV
MESECAM_DET

CN1 U.DRUM
VIDEO HEAD
SP CH2
SP CH1
LP/EP_CH2
LP/EP_CH1

■ VOLTAGE CHARTS

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	0	0
2	0	0
3	0	0
4	4.4	4.3
5	2.1	2.1
6	2.6	2.5
7	0	2.8
8	1.8	1.2
9	1.8	1.2
10	2.2	2.0
11	2.6	3.0
12	1.7	0.5
13	0	0
14	0	2.3
15	2.8	2.8
16	0	3.7
17	2.8	2.7
18	1.9	1.8
19	2.8	2.8
20	0	0
21	2.8	2.8
22	5.1	5.0
23	2.3	2.3
24	3.0	2.7
25	0	0
26	3.0	2.8
27	1.5	1.5
28	0	0
29	1.9	2.3
30	2.8	2.8
31	0.3	0.3
32	2.3	2.2
33	2.0	2.0
34	2.9	3.0
35	3.0	3.0
36	2.3	2.3
37	3.0	3.0
38	2.1	2.1
39	1.4	0
40	2.0	2.1
41	2.6	0
42	2.0	1.9
43	2.1	2.0
44	0	0
45	3.1	3.1
46	3.2	3.1
47	5.1	5.0
48	0.1	0
49	3.3	3.2
50	5.1	5.0
51	0	2.1
52	0	5.0
53	2.6	2.6
54	0	0
55	2.0	2.0
56	0	0
57	2.2	2.1
58	2.3	2.3
59	5.1	5.0
60	5.1	5.0
61	0	0
62	2.3	2.2
63	2.1	2.1
64	2.8	2.7
65	2.2	2.2
66	2.8	0
67	0	0
68	1.3	0
69	0	0
70	2.7	5.0
71	2.2	2.1
72	0	0.1
73	4.8	4.7
74	4.7	4.7
75	2.8	2.7
76	2.3	2.1
77	2.8	2.8
78	0	0
79	0.6	2.5
80	0	2.6
81	5.0	4.9
82	0	0
83	0	0
84	5.1	5.0
85	2.4	2.3
86	2.5	2.2
87	2.4	2.2
88	0	0
89	0	0
90	0	0
91	0	0
92	5.1	5.0
93	0.2	0.1
94	2.5	2.5
95	2.5	2.5
96	2.5	2.5

MODE PIN NO.	REC	PLAY
97	0	0
98	2.4	0
99	0	
100	2.6	2.5
IC2201		
1	2.4	2.4
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	2.5	2.5
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.5	2.5
17	0.6	0.2
18	0	0
19	2.5	2.5
20	2.6	0.5
21	2.6	0
22	0	0.6
23	0	0
24	2.6	0.6
25	5.1	5.0
26	2.6	0
27	0	2.5
28	4.3	0
29	4.2	1.8
30	3.9	1.7
31	0.9	0
32	0	2.5
33	2.6	2.5
34	0.6	0.3
35	2.5	2.5
36	0	0
37	1.7	1.7
38	0	0
39	0	0
40	5.0	0
41	0	0
42	4.8	4.7
43	4.7	0
44	3.3	3.2
45	0	0
46	4.9	0
47	2.5	2.5
48	2.5	2.5
49	0.4	0.3
50	0.3	0.3
51	0	0
52	0	0
53	4.5	4.5
54	0	0
55	0	0
56	0	0
57	4.5	4.5
58	0	0
59	4.6	4.6
60	0	0
61	2.5	2.5
62	2.4	2.4
63	4.5	4.5
64	4.6	4.5
IC251		
1	0	0
2	2.7	2.6
3	5.1	5.1
4	5.1	5.1
5	0	0
6	4.2	4.0
7	4.2	4.2
8	5.1	5.1
9	4.7	4.7
10	0	0
11	3.0	3.0
12	3.0	2.9
13	1.3	1.3
14	0.3	1.3
15	5.1	5.1
16	2.9	2.8
17	2.6	2.5
18	4.7	4.7
19	5.1	5.1
20	5.0	5.0
21	0	0
22	3.6	3.6
23	5.1	5.0
24	5.1	5.1
IC501		
1	0.2	2.9
2	5.1	5.1

MODE PIN NO.	REC	PLAY
3	2.8	2.8
4	5.1	5.1
5	3.3	3.2
6	5.1	5.1
7	3.3	2.9
8	7.6	2.5
9	4.7	4.7
10	4.7	4.7
11	5.1	5.1
12	2.2	2.2
13	2.7	2.8
14	2.4	2.4
15	0	0
16	0	2.2
17	0	2.7
18	2.3	2.4
19	0	0
20	3.1	0
21	0	0
22	0	0
23	0	0
24	0	2.3
25	0	0
26	2.4	2.4
27	2.4	0
28	0	2.4
29	2.4	3.4
30	3.7	3.6
31	2.4	2.4
32	2.4	2.4
33	3.5	5.1
34	5.1	5.1
35	0	0.2
36	2.4	2.1
37	2.6	2.7
38	2.8	2.8
39	2.8	3.9
40	2.9	2.8
41	0	2.3
42	1.9	2.4
43	2.3	2.3
44	2.4	2.6
45	3.1	0
46	4.4	4.3
47	0	2.4
48	0	0
49	2.8	2.8
50	4.4	4.4
51	2.8	2.8
52	2.8	2.8
53	0	0
54	0.7	0
55	4.4	4.3
56	2.8	0
IC3001		
1	0	0
2	2.5	0
3	3.0	2.5
4	1.9	0
5	2.5	2.5
6	0.1	0
7	2.5	2.5
8	2.4	2.4
9	1.5	1.5
10	5.0	4.9
11	1.9	1.8
12	1.9	1.9
13	2.4	2.4
14	0.4	0.4
15	0.9	0.8
16	2.8	2.8
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
4	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.0	4.2
6	4.2	4.1
7	0	0
8	5.0	4.9
IC6701		
1	5.0	5.0
2	1.5	1.5
3	1.5	1.5
4	0	0
5	2.4	2.4
6	2.5	2.4
7	0.2	0.2
8	0	0
9	0	0
10	3.6	3.6
11	3.6	3.6
12	4.1	4.1

MODE PIN NO.	REC	PLAY
43	4.3	4.3
44	2.6	2.6
45	0	0
46	3.4	3.4
47	3.4	4.1
48	3.4	2.7
49	1.4	2.0
50	2.1	2.0
51	2.1	2.7
52	0	2.7
53	4.2	0
54	4.8	4.8
55	0	0
56	4.9	4.9
57	0	0
58	4.3	4.3
59	0	0
60	4.1	3.8
61	4.7	4.7
62	4.7	4.7
63	4.3	4.3
64	4.4	4.3
65	4.4	4.3
66	4.3	4.3
67	0	0
68	0	0
69	0	0
70	0	0
71	4.3	4.2
72	4.9	4.9
73	0	0
74	0	0
75	1.5	0
76	0	1.4
77	4.9	0
78	-	2.4
79	0	0
80	2.4	2.4
81	3.2	3.1
82	4.9	4.9
83	4.9	4.8
84	0	0
85	0	3.9
86	5.1	5.1
87	0	0
88	0	0
89	0	0
90	0	4.8
91	0	0
92	4.7	4.7
93	4.8	0
94	0	0
95	4.8	4.8
96	0	0
97	0	3.9
98	4.8	4.8
99	0	0
100	4.8	0
101	4.9	0
102	4.7	4.7
103	4.8	4.8
104	1.4	1.4
105	2.5	0
106	0	2.5
107	2.6	2.6
108	2.7	0
109	0	0
110	0	0
111	0.3	0.3
112	4.9	4.9
IC7102		
1	0	0
2	2.0	2.0
3	5.0	5.0
4	1.3	1.2
5	0	0
6	1.7	1.7
IC7103		
1	4.7	4.6
2	2.0	2.0
3	5.0	5.0
4	1.7	1.7
5	0	0
6	1.4	1.3
IC7104		
1	0	0
2	2.1	2.1
3	5.0	5.0
4	2.9	2.9
5	0	0
6	2.8	2.8
IC7105		
1	0	0
2	2.3	2.3
3	5.0	5.0
4	1.9	1.9
5	0	0
6	1.9	1.9
Q1		
E	0	0
C	0	0
B	4.3	4.3
Q3		
E	1.1	1.1
C	0	0
B	0.5	0.5
Q4		
E	2.8	2.7
C	0	0
B	2.1	2.1
Q6		
E	3.2	2.1
C	0	0
B	2.6	1.5
Q7		
E	0	2.3
C	2.5	2.3
B	0	0
Q8		
E	2.5	2.3
C	2.5	2.3
B	0	0
Q9		
E	0	0
C	0	0
B	0.8	0.8
Q10		
E	0	0
C	0	0
B	0.7	0.7
Q11		
E	3.2	2.1
C	0	0
B	0	2.5
Q12		

MODE PIN NO.	REC	PLAY
E	2.9	2.9
C	0	0
B	2.2	0
Q13		
E	0	0
C	2.6	0
B	0	4.3
Q15		
E	1.1	1.1
C	0	0
B	0.8	2.6
Q16		
E	0	0
C	4.2	0
B	0	4.3
Q17		
E	0	0
C	0	5.0
B	4.2	0
Q201		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q202		
E	2.4	2.4
C	5.1	5.1
B	3.0	3.0
Q203		
E	2.2	2.3
C	0.5	0.5
B	0	0
Q581		
E	1.8	1.8
C	3.3	3.3
B	2.5	2.4
Q582		
E	1.1	1.1
C	1.7	3.7
B	3.7	1.8
Q583		
E	1.8	1.8
C	3.3	3.3
B	2.5	2.4
Q584		
E	1.1	1.1
C	5.1	5.1
B	1.8	1.7
Q2001		
E	-11.7	0
C	0	0
B	-18.4	0.7
Q2002		
E	-11.7	0
C	0	0
B	-18.1	0.7
Q2003		
E	5.1	5.1
C	-18.3	5.0
B	4.8	0
Q2051		
E	0	0
C	7.5	0.1
B	0.5	0.1
Q2052		
E	10.6	10.6
C	10.4	0.2
B	9.8	10.6
Q2053		
E	0	0
C	0	10.5
B	4.9	0
Q2054		
E	10.5	0.2
C	10.3	0.2
B	9.7	0.2
Q2054		
E	10.4	0.2
C	10.3	0.1
B	9.7	0.2
Q2055		
E	0	0
C	0	0.2
B	4.9	0
Q2201		
E	5.0	4.9
C	-0.2	-0.1
B	4.9	4.9
Q2202		
E	0	0
C	4.9	4.9
B	0	0
Q2203		
E	0	0
C	0	0
B	-0.1	-0.1
Q2204		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	-0.1	0
Q2251		
E	0	0
C	4.2	4.2
B	0	0
Q2252		
E	0	0
C	4.2	4.2
B	0	0
Q2253		
E	0	0
C	0	0
B	4.2	4.2
Q2254		
E	0	0
C	0	0
B	0	0
Q2255		
E	0	0
C	0	0
B	4.8	0
Q3003		
E	0	0
C	4.7	4.7
B	-	-
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.0	4.9
C	5.6	5.6
B	5.5	5.6
Q4001		
E	0	0
C	0	0
B	4.8	4.8
Q5101		
D	306.4	307.2
G	3.2	3.2
S	0	0
Q5102		
E	0	0
C	3.1	3.1
B	0.3	0.2
Q5301		
E	0	0
C	4.4	4.4
B	0.5	0.5
Q5303		
E	5.2	5.2
C	5.6	5.7
B	5.9	5.9
Q5304		
E	0	0
C	12.1	0
B	11.2	11.2
Q5305		
E	11.2	11.2
C	11.2	11.2
B	0	0
Q5306		
E	0	0
C	0	0
B	4.4	4.5
Q5307		
E	5.0	5.0
C	5.6	5.6
B	5.6	5.6
Q6030		
E	0	0
C	0	0
B	2.2	2.2
Q6031		
E	0	0
C	0	0
B	4.8	4.8
Q6032		
E	0	0
C	0	0
B	4.8	4.8
Q7001		
E	5.0	4.9
C	0.9	0.8
B	4.8	4.8
Q7002		
E	5.0	4.9
C	0.9	0.8
B	4.8	4.8
Q7003		
E	5.0	4.9
C	0.8	0.7
B	4.8	4.8
Q7004		
E	5.0	4.9
C	0.7	0.7

MODE PIN NO.	REC	PLAY
B	4.8	4.8
Q7005		
E	5.0	4.9
C	0.8	0.8
B	4.8	4.8
Q7006		
E	5.0	4.9
C	0.8	0.8
B	4.8	4.8
Q7007		
E	5.0	4.9
C	1.1	1.0
B	4.8	4.8
Q7008		
E	0.7	0
C	2.8	-
B	0	3.4
Q7009		
E	0.7	0
C	2.8	0.9
B	0	4.1
Q7010		
E	0.7	0
C	2.8	1.7
B	0	2.7
Q7011		
E	0.7	0
C	2.8	-
B	0	-
Q7012		
E	0.7	0
C	2.8	1.0
B	0	2.8
Q7013		
E	0.7	0
C	2.8	0
B	0	-
Q7014		
E	0	0
C	2.7	-
B	0.7	2.7
Q7101		
E	10.6	10.6
C	0	10.6
B	10.6	9.8
Q7102		
E	0	0
C	10.6	0
B	0	4.9
Q7103		
E	5.9	10.1
C	10.6	10.6
B	6.3	6.3
Q7104		
E	5.9	10.1
C	0	10.6
B	5.8	10.2
Q7105		
E	0	0
C	5.8	10.1
B	0	0
Q7106		
E	2.7	2.7
C	0	0
B	2.1	2.1
CN2		
1	2.2	1.8
2	0.8	2.5
3	0	0
4	0	0
5	0.3	0.3
6	0	5.0
7	0	2.7
8	0	4.8
9	0	0
10	2.5	0
11	2.3	2.1
CN512		
1	5.0	5.0
2	5.0	5.0
3	0.2	2.9
4	0	0
5	1.7	1.7
6	0	0
7	7.7	2.5
8	0	0
9	4.6	2.0
10	10.6	10.6
11	10.6	10.6
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.2	2.5
6	2.5	2.5
CN2002		

MODE PIN NO.	REC	PLAY
1	0	0
2	0	0
CN3001		
1	2.4	2.4
2	12.1	12.2
3	5.1	5.1
4	0	0
5	6.6	6.6
6	0	0
7	0	0
8	12.1	12.2
9	2.7	2.7
10	2.6	2.6
11	1.4	1.4
12	2.6	2.6
JS3001		
1	0	0
2	0	0
3	5.0	4.9
4	0	0
5	5.0	4.9
CN5001		
1	149.2	149.3
2	150.4	150.4

<S-P CONVERTER>

MODE PIN NO.	REC	PLAY
IC1601		
1	2.1	2.0
2	4.5	4.5
3	1.2	1.0
4	4.9	4.9
5	0	0
6	2.0	2.2
7	5.0	5.0
8	2.1	2.1
IC1602		
1	5.0	5.0
2	4.5	4.6
3	0.4	0.4
4	0.4	0.4
5	0.4	0.4
6	4.5	4.6
7	0	0
8	0.5	0.5
9	4.5	4.5
10	4.9	4.9
11	0	4.5
12	4.9	4.9
13	0.3	0.4
14	5.0	5.0
IC1603		
1	0	0
2	4.7	4.7
3	5.0	5.0
4	0	0
5	0.4	0.4
6	0.3	0.3
7	4.6	4.6
8	0	0
9	1.3	1.3
10	3.7	3.8
11	5.0	5.0
12	1.2	1.0
13	5.0	5.0
14	2.2	2.1
15	0	0
16	5.0	5.0
IC1604		
1	5.0	5.0
2	3.7	3.7
3	1.2	0.9
4	5.0	5.0
5	0.1	0.1
6	4.9	4.9
7	0	0
8	2.5	2.5
9	2.5	2.5
10	5.0	5.0
11	4.6	4.6
12	2.5	2.5
13	5.0	5.0
14	5.0	5.0
IC1605		
1	8.3	8.3
2	1.1	1.1
3	8.3	8.3
4	0	0
5	0	0
6	0	0
7	3.3	3.3
8	4.1	4.2
9	2.9	2.9
10	2.9	2.9
11	0	0
12	0	0
13	0	0
14	0	0
15	0.6	0.6
16	0	0
IC1606		
1	5.0	4.9
2	0	0
3	0	0
4	0.1	0.1
5	0.6	0.6
6	0	0
7	0.1	0.2
8	0	0
9	5.0	5.0
10	0	0
11	3.0	3.0
12	3.0	3.0
13	0	0
14	1.4	1.4
15	0	0
16	1.4	1.4
IC1607		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	2.5	2.5
5	2.3	2.2
6	2.2	2.3

MODE PIN NO.	REC	PLAY
7	2.4	2.3
8	5.0	5.0
9	2.3	2.3
10	0	0
11	2.4	2.3
12	2.4	2.3
13	2.5	2.5
14	1.9	1.9
15	0.9	0.9
16	0.8	0.8
17	0	0
18	0	0
19	0	0
20	0	0
21	2.5	2.5
22	1.9	1.9
23	1.3	1.3
24	2.1	2.1
Q1601		
E	8.5	3.2
C	0	0
B	7.7	2.5
Q1604		
E	7.8	2.5
C	10.6	10.6
B	8.5	3.2
Q1605		
E	4.6	2.0
C	0	0
B	4.0	1.3
Q1606		
E	8.3	8.3
C	10.6	10.6
B	9.0	9.0
Q1607		
E	2.3	2.4
C	4.2	4.1
B	3.0	3.0
Q1608		
E	4.8	4.8
C	3.5	3.5
B	4.2	4.2
Q1609		
E	2.8	2.8
C	5.0	5.0
B	3.5	3.5
Q1610		
E	2.3	2.4
C	4.2	4.2
B	3.0	2.9
Q1611		
E	4.8	4.8
C	3.5	3.5
B	4.2	4.2
Q1612		
E	2.8	2.8
C	5.0	5.0
B	3.5	3.5
Q1613		
E	1.6	1.7
C	5.0	5.0
B	2.4	2.4
Q1614		
E	1.6	1.7
C	0	0
B	1.0	1.1
Q1615		
E	2.8	2.8
C	5.0	5.0
B	3.5	3.4
Q1616		
E	1.0	1.1
C	3.5	3.4
B	1.7	1.6
Q1617		
E	3.4	3.4
C	0	0
B	2.8	2.8
Q1619		
E	1.7	1.7
C	0	0
B	4.9	4.9
CN1601		
1	10.6	10.6
2	10.6	10.6
3	4.6	2.0
4	0	0
5	7.7	2.5
6	0	0
7	1.7	1.7
8	0	0
9	0.1	2.9
10	5.0	5.0
11	5.0	5.0

<SECAM>

MODE PIN NO.	REC	PLAY
IC301		
1	0	0
2	2.0	2.0
3	4.0	4.0
4	0.5	0.4
5	0	0
6	3.0	3.0
7	0	0
8	2.5	2.5
9	2.5	2.5
10	2.3	2.3
11	2.6	0.1
12	4.4	4.4
13	2.5	2.6
14	3.1	2.0
15	2.7	2.7
16	0	5.0
17	0.8	2.6
18	2.2	2.2
19	2.4	2.4
20	2.5	2.5
21	2.5	2.5
22	5.0	5.0
23	3.0	2.9
24	3.0	2.9
25	2.7	2.7
26	0.2	0.2
27	0.4	0.3
28	0.3	0
Q301		
E	2.5	2.5
C	2.4	2.5
B	1.9	4.9
Q302		
E	5.0	4.9
C	5.0	0.5
B	0	4.9
CN301		
1	2.2	2.2
2	0.8	2.6
3	0.1	0.1
4	0	0
5	0.4	0.3
6	5.0	5.0
7	2.8	2.7
8	0	4.9
9	0	0
10	2.6	0
11	2.3	2.1

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY VIDEO RECORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.82961)

Printed in Japan
20034WPC

PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

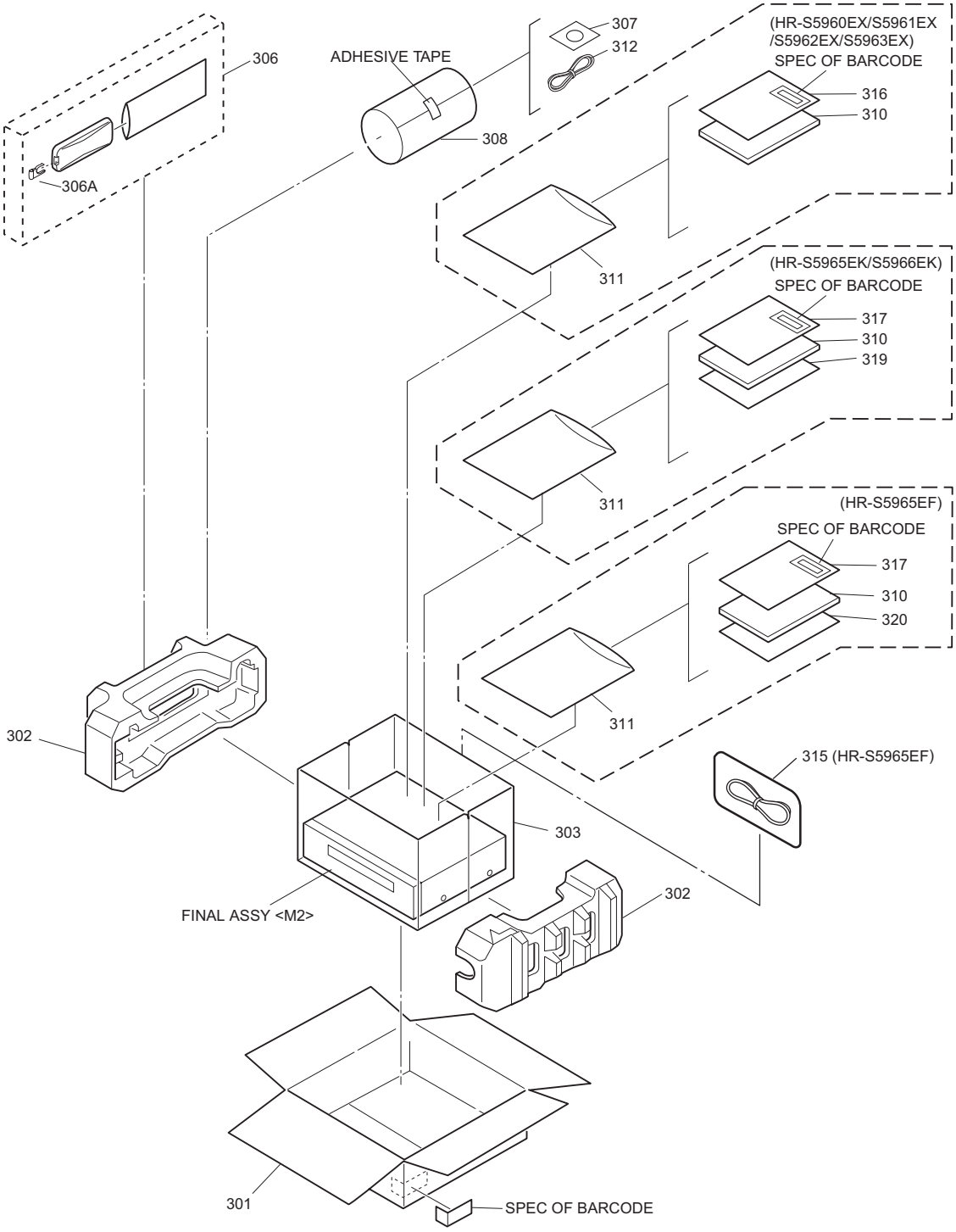
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

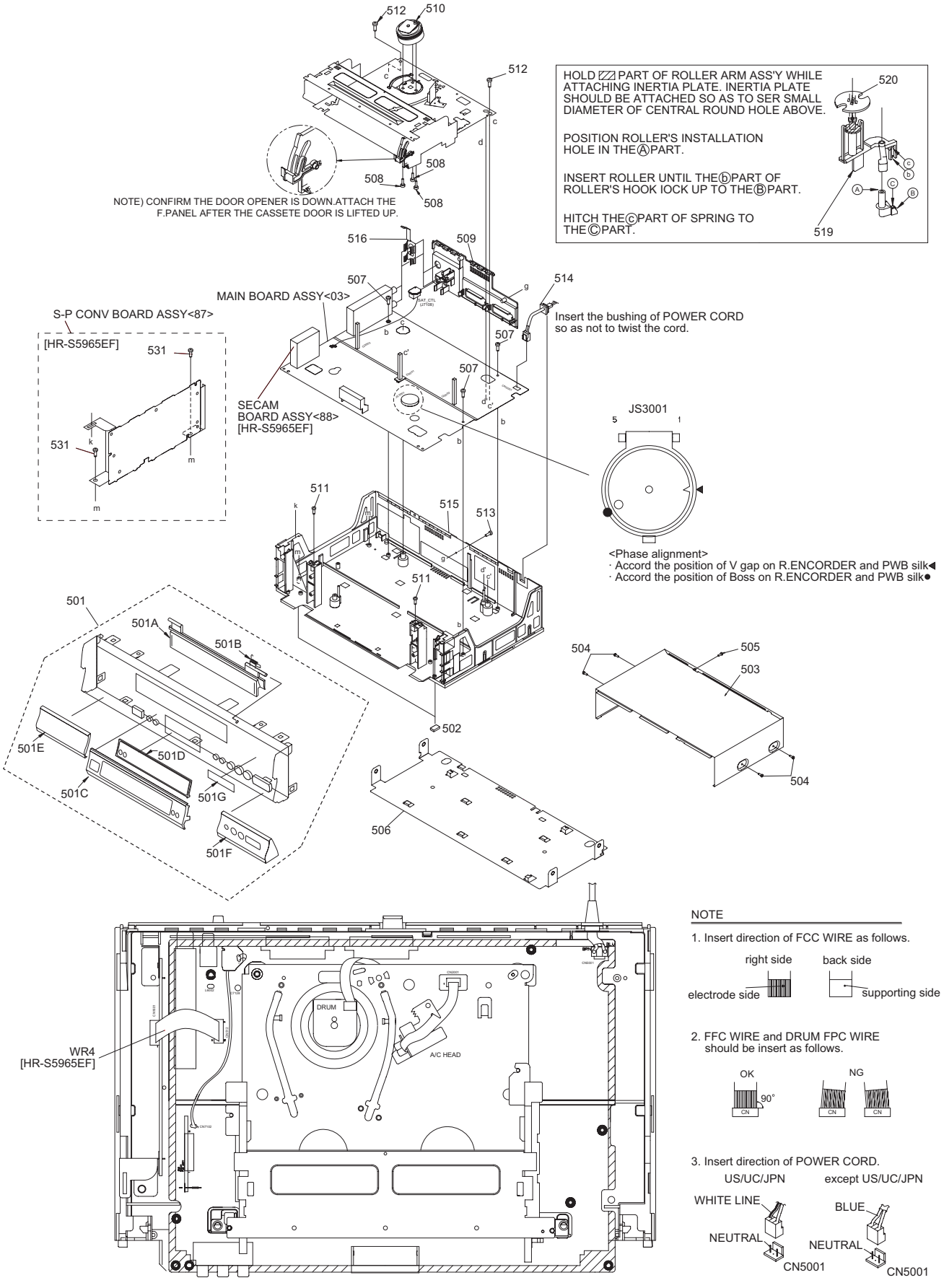
1. EXPLODED VIEW

1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

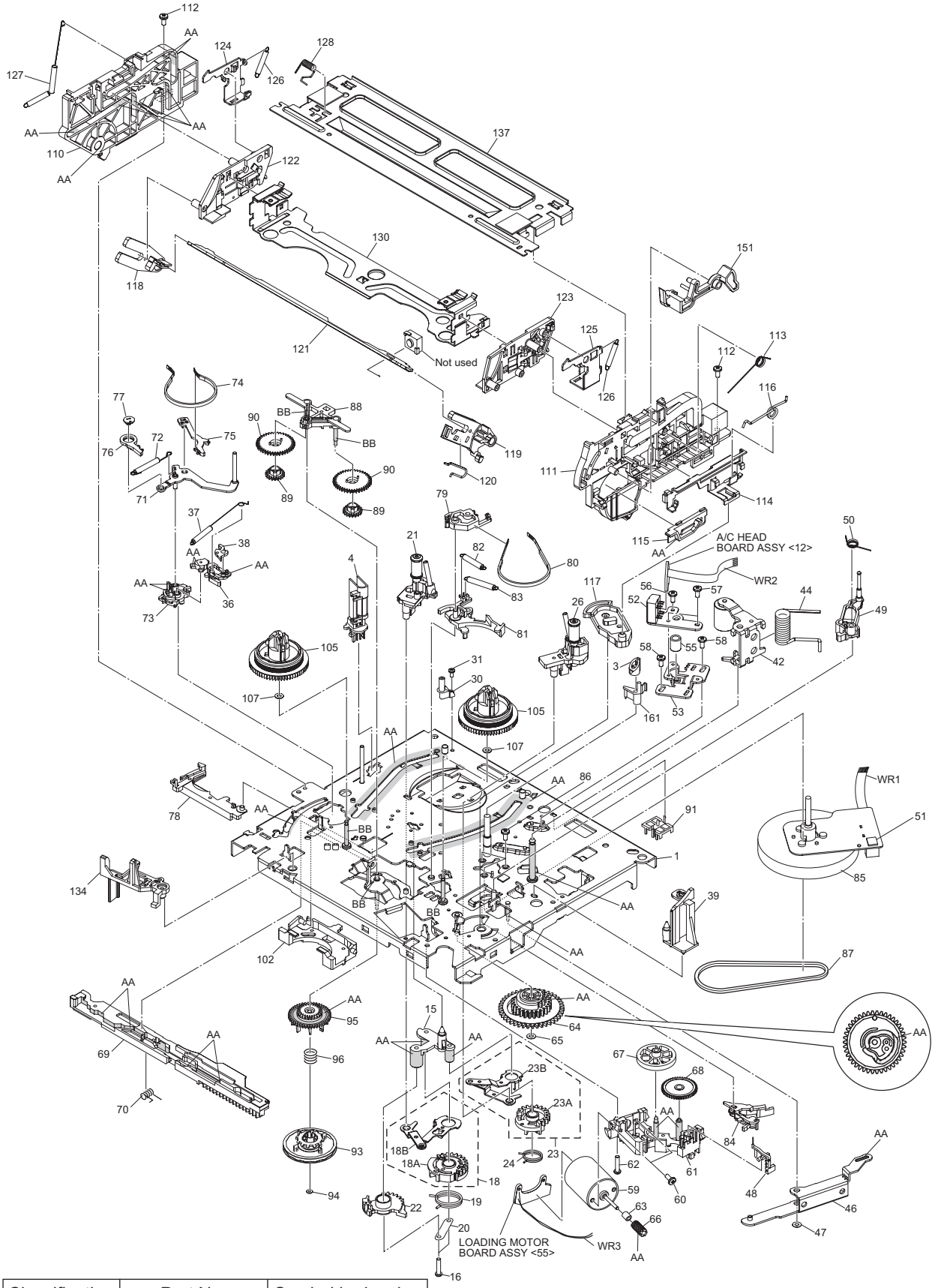
The instruction manual to be provided with this product will differ according to the destination.



1.2 FINAL ASSEMBLY <M2>



1.3 MECHANISM ASSEMBLY <M4>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

2. PARTS LIST

PACKING AND ACCESSORY ASSEMBLY <M1>

⚠ Symbol No.	Part No.	Part Name	Description	Local
301	LP30855-004B	PACKING CASE		
302	LP31187-001A	CUSHION ASSY		
303	PQM30021-093	POLY BAG		
306	LP21138-003C	REMOCON		A,C,D,E,F
306	LP21138-004C	REMOCON		B,G
306A	LP40991-002B	COVER(BATTERY)		A,C,D,E,F
306A	LP40991-001B	COVER(BATTERY)		B,G
⚠ 307	QAB0057-001	LI BATTERY		
308	QPC02202230P	POLY BAG	22cm x 22cm	
⚠ 310	LPT0751-001B	INST. BOOK	(ENGLISH)	A,B,C,D
⚠ 310	LPT0751-002B	INST. BOOK	(GERMANY)	A,B,C,D
⚠ 310	LPT0751-003A	INST. BOOK	(FRENCH)	A,B,C,D
⚠ 310	LPT0751-004A	INST. BOOK	(DUTCH)	A,B,C,D
⚠ 310	LPT0751-005A	INST. BOOK	(SPANISH)	A,B,C,D
⚠ 310	LPT0751-006A	INST. BOOK	(ITALIAN)	A,B,C,D
⚠ 310	LPT0751-007A	INST. BOOK	(DANISH)	A,B,C,D
⚠ 310	LPT0751-008A	INST. BOOK	(FINNISH)	A,B,C,D
⚠ 310	LPT0751-009A	INST. BOOK	(SWEDISH)	A,B,C,D
⚠ 310	LPT0751-010A	INST. BOOK	(NORWEGIAN)	A,B,C,D
⚠ 310	LPT0751-011A	INST. BOOK	(PORTUGUESE)	A,B,C,D
⚠ 310	LPT0751-012A	INST. BOOK	(GREEK)	A,B,C,D
⚠ 310	LPT0751-013A	INST. BOOK	(CZECH)	A,B,C,D
⚠ 310	LPT0751-014A	INST. BOOK	(POLISH)	A,B,C,D
⚠ 310	LPT0751-015A	INST. BOOK	(HUNGARIAN)	A,B,C,D
⚠ 310	LPT0773-001B	INST. BOOK	(FRENCH)	E
⚠ 310	LPT0768-001B	INST. BOOK	(ENGLISH)	F,G
311	QPC02503530P	POLY BAG	25cm x 35cm	
312	PEAC0300-02	RF CABLE		
315	QAM0238-003	PERI CABLE		E
316	BT-54013-5	WARRANTY CARD		A,B,C,D
317	BT-54008-4	WARRANTY CARD		E,F,G
319	LYT0194-001B	Q.CARD(JUK)		F,G
320	LPT0773-002A	SHEET(SAT)		E

FINAL ASSEMBLY <M2>

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ 501	LP10452-005C	FRONT PANEL ASSY		A
⚠ 501	LP10452-019B	FRONT PANEL ASSY		B
⚠ 501	LP10452-020B	FRONT PANEL ASSY		C
⚠ 501	LP10452-021B	FRONT PANEL ASSY		D
⚠ 501	LP10452-025B	FRONT PANEL ASSY		E
⚠ 501	LP10452-022B	FRONT PANEL ASSY		F
⚠ 501	LP10452-023B	FRONT PANEL ASSY		G
501A	LP21123-011B	CASSETTE DOOR		C
501A	LP21123-003B	CASSETTE DOOR		A,D,E,F
501A	LP21123-013A	CASSETTE DOOR		B,G
501B	PQ46448	TORSION SPRING		
501C	LP21127-006B	COVER(WINDOW)		C,D
501C	LP21127-001B	COVER(WINDOW)		A,E,F
501C	LP21127-008B	COVER(WINDOW)		B,G
501D	LP31188-002A	WINDOW(1)		A,B,C,D
501D	LP31188-015A	WINDOW(1)		E
501D	LP31188-012A	WINDOW(1)		F,G
501E	LP31109-002A	COVER(L)		A
501E	LP31109-008A	COVER(L)		B
501E	LP31109-009A	COVER(L)		C
501E	LP31109-010A	COVER(L)		D
501E	LP31109-014A	COVER(L)		E
501E	LP31109-011A	COVER(L)		F
501E	LP31109-012A	COVER(L)		G
501F	LP30877-005A	COVER(R)		D
501F	LP30877-003A	COVER(R)		A,C,E,F
501F	LP30877-007A	COVER(R)		B,G
501G	LP41035-004A	STICKER		
502	PQ43013-7	FOOT	(x2)	
⚠ 503	LP10013-061C	TOP COVER		B,G
⚠ 503	LP10013-051C	TOP COVER		A,C,D,E,F
504	QYTDSF3010R	TAP SCREW	3mm x 10mm,TOP COVER(x4)	A,C,D,E,F
504	QYTDSF3010M	TAP SCREW	3mm x 10mm,TOP COVER(x4)	B,G
505	QYTDSF3010M	TAP SCREW	3mm x 10mm,TOP COVER	
⚠ 506	LP10014-002C	BOTTOM COVER		
507	DPSF3010Z	SCREW	MAIN(x3)	
508	QYSPSPD3008Z	SCREW	3mm x 8mm DRUM(x3)	
⚠ 509	LP20317-011B	TERM.BOARD(PAL)		
510	PDV2544A	DRUM FINAL ASSY		
511	QYSPSFG3010Z	TAP SCREW	3mm x 10mm(x2)	
512	QYTDSF4012Z	TAP SCREW	4mm x 12mm,MECHANISM(x2)	
513	QYTDSF3010M	TAP SCREW	3mm x 10mm, TERMINAL	
⚠ 514	QMP4A10-170	POWER CORD	1.7m BLACK	A,B,C,D,E
⚠ 514	QMP51K0-170-K	POWER CORD	1.7m BLACK	F,G
⚠ 515	LP10108-001L	BOTTOM CHASSIS		
516	PQ21623-2-5	EARTH PLATE(RF)		
519	LP40370-001F	ROLLER ARM ASSY		
520	PQ45160	INERTIA PLATE		
531	QYTDSF3008Z	TAP SCREW	3mm x 8mm,S-P CONV.(x2)	E
WR4	QUQ112-1113CG	FFC WIRE	S-P CONV.-MAIN	E

MECHANISM ASSEMBLY <M4>

⚠ Symbol No.	Part No.	Part Name	Description
1	LP21039-001T	MAIN DECK ASSY	
3	LP40097-002E	GUIDE POLE CAP	
4	QAH0082-001	FE HEAD	
15	LP30958-001B	LOADING GEAR BASE	
16	QYTPST2620Z	TAP SCREW	2.6mm x 20mm(x2)
18	LP40798-001A	LOADING GEAR(SUP) ASSY	
18A	LP21040-001A	LOADING GEAR(SUP)	
18B	LP40799-001A	LOADING ARM(SUP) ASSY	
19	LP40837-001A	TORSION SPRING(SUP)	
20	LP40903-001A	FIXING PLATE	
21	LP40806-001D	POLE BASE ASSY(SUP)	
22	LP30959-002A	LOADING GEAR	
23	LP40802-001C	LOADING GEAR(TU) ASSY	
23A	LP21041-001C	LOADING GEAR(TU)	
23B	LP40803-001A	LOADING ARM(TU) ASSY	
24	LP40838-001A	TORSION SPRING(TU)	
26	LP40808-001E	POLE BASE ASSY(TU)	
30	LP31020-004B	ARM BASE	
31	QYTDST2606Z	TAP SCREW	2.6mm x 6mm
36	LP21055-001E	TAKE UP LEVER	
37	LP40943-001A	TENSION SPRING	
38	LP40859-001D	TAKE UP HEAD	
39	LP30961-001C	LID GUIDE	
42	LP40810-001A	PINCH ROLLER ARM ASSY	
44	LP40840-001D	TORSION SPRING	
46	LP30963-001B	PRESS LEVER	
47	PQM30017-24	SLIT WASHER	
48	LP40930-002E	S-SWITCH	
49	LP40813-001D	GUIDE ARM ASSY	
50	LP40841-001A	TORSION SPRING	
51	LP30002-090A	SPACER	
52	QAH0081-001	AC HEAD	
53	LP30965-001A	HEAD BASE	
55	LP40842-001D	COMP.SPRING	
56	QYTDST2006M	TAP SCREW	2mm x 6mm
57	LP41036-001A	A/C ADJ.SCREW	(x2)
58	QYTDST2606Z	TAP SCREW	2.6mm x 6mm(x2)
59	QAR0023-001	LOADING MOTOR	
60	QYTPSP3003Z	SCREW	3mm x 3mm(x2)
61	LP21056-002H	MOTOR BRACKET	
62	QYTPST2620Z	TAP SCREW	2.6mm x 20mm
63	LP40814-001B	WORM BEARING	
64	LP21044-001E	CONTROL CAM	
65	PQM30017-24	SLIT WASHER	
66	LP40815-001A	WORM GEAR	
67	LP40816-001B	HELICAL GEAR	
68	LP40817-001A	CONNECT GEAR	
69	LP10400-001J	CONTROL PLATE	
70	LP40843-001A	TORSION SPRING	
71	LP40818-001B	TENSION ARM ASSY	
72	LP40844-001E	TENSION SPRING	
73	LP21045-001D	TENSION ARM BASE	
74	LP40821-001A	TENSION BAND ASSY	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
75	LP30967-001B	BAND HOLDER-1		
76	LP30968-001C	BAND HOLDER-2		
77	LP40822-002B	ADJUST PIN		
78	LP31000-005E	TENSION ARM LEVER		
79	LP21046-001C	MAIN BRAKE(TU)		
80	LP40824-001A	BAND BRAKE ASSY		
81	LP30969-002B	BRAKE LEVER		
82	LP30003-033B	TENSION SPRING		
83	LP30003-035B	TENSION SPRING		
84	LP40825-001B	CAPSTAN BRAKE ASSY		
⚠ 85	QAR0224-002	CAPSTAN MOTOR		
86	QYTPSG2606Z	TAP SCREW	2.6mm x 6mm(x3)	
87	LP30005-010A	BELT		
88	LP30970-001A	IDLER ARM		
89	LP40828-004A	IDLER GEAR 1	(x2)	
90	LP40829-001B	IDLER GEAR 2	(x2)	
91	LP31014-001A	WIRE HOLDER		
93	LP40934-001B	CLUTCH UNIT		
94	PQM30017-47	SLIT WASHER		
95	LP30973-001A	DIRECT GEAR		
96	LP40939-001A	COMP. SPRING		
102	LP30974-001B	CHANGE LEVER		
105	LP21049-001A	REEL DISK	(x2)	
107	LP30017-004A	SPACER	(x2)	
110	LP10401-001H	SIDE FRAME(L)		
111	LP10402-001K	SIDE FRAME(R)		
112	QYTDST2606Z	TAP SCREW	2.6mm x 6mm(x2)	
113	LP40917-001D	TORSION SPRING		
114	LP30976-001E	SIDE PLATE		
115	LP30977-002D	LIMIT PLATE		
116	LP40846-001C	LIMIT SPRING		
117	LP31100-001B	DRIVE LEVER		
118	LP30978-001B	DRIVE ARM(L)		
119	LP30979-001P	DRIVE ARM(R)		
120	LP40847-001B	TORSION SPRING		
121	LP30980-001E	CONNECT PLATE		
122	LP10403-001C	SIDE HOLDER(L)		
123	LP10404-001E	SIDE HOLDER(R)		
124	LP30983-001B	LOCK LEVER(L)		
125	LP30984-001B	LOCK LEVER(R)		
126	LP40924-001D	TENSION SPRING	(x2)	
127	LP40972-001A	EARTH SPRING(1)		
128	LP40857-001B	EARTH SPRING(2)		
130	LP30981-001G	CASSETTE HOLDER ASSY		
134	LP21051-002C	REC SAFETY LEVER		
137	LP21052-001J	TOP FRAME		
151	LP30985-001G	DOOR OPENER		
161	LP40993-001A	TAPE GUIDE		
WR1	WJT0059-001D	E-CARD WIRE	CAP M.-DRUM M.	
WR2	WJT0067-001B	E-CARD WIRE	A/C HAED CN2001	
WR3	WJS0022-001A	E-FL/RB WIRE	LOADING MOTOR	

MAIN BOARD ASSEMBLY <03>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10189-02C	MAIN BOARD ASSY		A,B,C,D
PW1	LPA10189-07C	MAIN BOARD ASSY		E
PW1	LPA10189-08B	MAIN BOARD ASSY		F,G
IC1	JCP8060-MSA	IC		
IC251	LC74793	IC		
IC501	JCP8058-2	IC		
IC501 or	JCP8058	IC		A,B,C,D,F,G
IC2201	AN3651FBP	IC		
IC3001	HD6432199RA87F	IC(MCU)		A,B,C,D
IC3001 or	HD64F2199RFA87	IC(MCU)		A,B,C,D
IC3001	HD6432199RA89F	IC(MCU)		E
IC3001 or	HD64F2199RFA89	IC(MCU)		E
IC3001	HD6432199RA88F	IC(MCU)		F,G
IC3001 or	HD64F2199RFA88	IC(MCU)		F,G
IC3002	IC-PST3427U-X	IC		
IC3002 or	S-80827CNNB-X	IC		
IC3003	LPN0787-001E-01	IC(EEPROM)	*(REFER TO BELOW)	A,B,C,D
IC3003	LPN0787-005F-02	IC(EEPROM)	*(REFER TO BELOW)	E
IC3003	LPN0787-003D-01	IC(EEPROM)	*(REFER TO BELOW)	F,G
IC6701	MSP3417D-X	IC		
IC6701 or	MSP3417DG3-X	IC		
IC6701 or	MSP3417G-X	IC		
IC6701 or	MSP3417GQGB8V3X	IC		
IC7002	GP1UM291QK	IR DETECT UNIT	38kHz	
IC7102	MM1508XN-X	IC		A,B,C,D,E
IC7103	MM1508XN-X	IC		A,B,C,D,E
IC7104	MM1503XN-X	IC		A,B,C,D,E
IC7104	MM1507XN-X	IC		F,G
IC7105	MM1506XN-X	IC		
Q1	DTC144WUA-X	DIGI TRANSISTOR		
Q1 or	PDTC144WU-X	DIGI TRANSISTOR		
Q1 or	UN521E-X	DIGI TRANSISTOR		
Q1 or	RN1309-X	DIGI TRANSISTOR		
Q3	2SA1576A/QR/-X	TRANSISTOR		E
Q3 or	2SB1218A/QR/-X	TRANSISTOR		E
Q3 or	2PA1576/R/-X	TRANSISTOR		E
Q4	2SA1576A/QR/-X	TRANSISTOR		
Q4 or	2SB1218A/QR/-X	TRANSISTOR		
Q4 or	2PA1576/R/-X	TRANSISTOR		
Q6	2SA1576A/QR/-X	TRANSISTOR		E
Q6 or	2SB1218A/QR/-X	TRANSISTOR		E
Q6 or	2PA1576/R/-X	TRANSISTOR		E
Q7	2SC4081/QRS/-X	TRANSISTOR		
Q7 or	2PC4081/R/-X	TRANSISTOR		
Q7 or	2SD1819A/QRS/-X	TRANSISTOR		
Q8	2SC4081/QRS/-X	TRANSISTOR		
Q8 or	2PC4081/R/-X	TRANSISTOR		
Q8 or	2SD1819A/QRS/-X	TRANSISTOR		
Q9	2SC4081/QRS/-X	TRANSISTOR		
Q9 or	2PC4081/R/-X	TRANSISTOR		
Q9 or	2SD1819A/QRS/-X	TRANSISTOR		
Q10	2SC4081/QRS/-X	TRANSISTOR		
Q10 or	2PC4081/R/-X	TRANSISTOR		
Q10 or	2SD1819A/QRS/-X	TRANSISTOR		
Q11	2SA1576A/QR/-X	TRANSISTOR		E
Q11 or	2SB1218A/QR/-X	TRANSISTOR		E
Q11 or	2PA1576/R/-X	TRANSISTOR		E
Q12	2SA1576A/QR/-X	TRANSISTOR		
Q12 or	2SB1218A/QR/-X	TRANSISTOR		
Q12 or	2PA1576/R/-X	TRANSISTOR		
Q13	DTC144WUA-X	DIGI TRANSISTOR		E
Q13 or	PDTC144WU-X	DIGI TRANSISTOR		E
Q13 or	UN521E-X	DIGI TRANSISTOR		E
Q13 or	RN1309-X	DIGI TRANSISTOR		E
Q15	2SA1576A/QR/-X	TRANSISTOR		E
Q15 or	2SB1218A/QR/-X	TRANSISTOR		E
Q15 or	2PA1576/R/-X	TRANSISTOR		E
Q16	DTC144WUA-X	DIGI TRANSISTOR		E
Q16 or	PDTC144WU-X	DIGI TRANSISTOR		E
Q16 or	UN521E-X	DIGI TRANSISTOR		E
Q16 or	RN1309-X	DIGI TRANSISTOR		E
Q17	DTC144WUA-X	DIGI TRANSISTOR		E
Q17 or	PDTC144WU-X	DIGI TRANSISTOR		E
Q17 or	UN521E-X	DIGI TRANSISTOR		E
Q17 or	RN1309-X	DIGI TRANSISTOR		E
Q201	2SB1218A/QR/-X	TRANSISTOR		
Q201 or	2SA1576A/QR/-X	TRANSISTOR		
Q201 or	2PA1576/R/-X	TRANSISTOR		
Q202	2SD1819A/QRS/-X	TRANSISTOR		
Q202 or	2SC4081/QRS/-X	TRANSISTOR		
Q202 or	2PC4081/R/-X	TRANSISTOR		
Q203	2SD1819A/QRS/-X	TRANSISTOR		E
Q203 or	2SC4081/QRS/-X	TRANSISTOR		E
Q203 or	2PC4081/R/-X	TRANSISTOR		E
Q581	2SC4081/QRS/-X	TRANSISTOR		
Q581 or	2SD1819A/QRS/-X	TRANSISTOR		
Q581 or	2PC4081/R/-X	TRANSISTOR		
Q582	2SC4081/QRS/-X	TRANSISTOR		
Q582 or	2SD1819A/QRS/-X	TRANSISTOR		
Q582 or	2PC4081/R/-X	TRANSISTOR		
Q583	2SC4081/QRS/-X	TRANSISTOR		
Q583 or	2SD1819A/QRS/-X	TRANSISTOR		
Q583 or	2PC4081/R/-X	TRANSISTOR		
Q584	2SC4081/QRS/-X	TRANSISTOR		
Q584 or	2SD1819A/QRS/-X	TRANSISTOR		

*The VCR goes to jig RCU mode after replacing the EEPROM and the VCR does not accept some RCU command.
Therefore please set the VCR to the user RCU mode after replacing the EEPROM.
The method of setting the VCR to the user RCU mode is written on the service manual.

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q584	or 2PC4081/R/-X	TRANSISTOR		
Q2001	2SC4081/QRS/-X	TRANSISTOR		
Q2001	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2001	or 2PC4081/R/-X	TRANSISTOR		
Q2002	2SC4081/QRS/-X	TRANSISTOR		
Q2002	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2002	or 2PC4081/R/-X	TRANSISTOR		
Q2003	DTA144WUA-X	DIGI TRANSISTOR		
Q2003	or UN511E-X	DIGI TRANSISTOR		
Q2003	or RN2309-X	DIGI TRANSISTOR		
Q2003	or PDTA144WU-X	DIGI TRANSISTOR		
Q2051	2SC4081/QRS/-X	TRANSISTOR		
Q2051	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2051	or 2PC4081/R/-X	TRANSISTOR		
Q2052	2SA1576A/QR/-X	TRANSISTOR		
Q2052	or 2SB1218A/QR/-X	TRANSISTOR		
Q2052	or 2PA1576/R/-X	TRANSISTOR		
Q2053	DTC144WUA-X	DIGI TRANSISTOR		
Q2053	or UN521E-X	DIGI TRANSISTOR		
Q2053	or RN1309-X	DIGI TRANSISTOR		
Q2053	or PDTC144WU-X	DIGI TRANSISTOR		
Q2054	2SA1576A/QR/-X	TRANSISTOR		
Q2054	or 2SB1218A/QR/-X	TRANSISTOR		
Q2054	or 2PA1576/R/-X	TRANSISTOR		
Q2055	DTC144WUA-X	DIGI TRANSISTOR		
Q2055	or UN521E-X	DIGI TRANSISTOR		
Q2055	or RN1309-X	DIGI TRANSISTOR		
Q2055	or PDTC144WU-X	DIGI TRANSISTOR		
Q2201	DTA144WUA-X	DIGI TRANSISTOR		
Q2201	or PDTA144WU-X	DIGI TRANSISTOR		
Q2201	or UN511E-X	DIGI TRANSISTOR		
Q2201	or RN2309-X	DIGI TRANSISTOR		
Q2202	DTC144WUA-X	DIGI TRANSISTOR		
Q2202	or PDTC144WU-X	DIGI TRANSISTOR		
Q2202	or UN521E-X	DIGI TRANSISTOR		
Q2202	or RN1309-X	DIGI TRANSISTOR		
Q2203	2SC4081/QRS/-X	TRANSISTOR		
Q2203	or 2PC4081/R/-X	TRANSISTOR		
Q2203	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2204	2SC4081/QRS/-X	TRANSISTOR		
Q2204	or 2PC4081/R/-X	TRANSISTOR		
Q2204	or 2SD1819A/QRS/-X	TRANSISTOR		
Q2251	DTC144WUA-X	DIGI TRANSISTOR		
Q2251	or PDTC144WU-X	DIGI TRANSISTOR		
Q2251	or UN521E-X	DIGI TRANSISTOR		
Q2251	or RN1309-X	DIGI TRANSISTOR		
Q2252	DTC144WUA-X	DIGI TRANSISTOR		
Q2252	or PDTC144WU-X	DIGI TRANSISTOR		
Q2252	or UN521E-X	DIGI TRANSISTOR		
Q2252	or RN1309-X	DIGI TRANSISTOR		
Q2253	DTC144WUA-X	DIGI TRANSISTOR		
Q2253	or PDTC144WU-X	DIGI TRANSISTOR		
Q2253	or UN521E-X	DIGI TRANSISTOR		
Q2253	or RN1309-X	DIGI TRANSISTOR		
Q2254	DTC114EUA-X	DIGI TRANSISTOR		
Q2254	or PDTC114EU-X	DIGI TRANSISTOR		
Q2254	or UN5211-X	DIGI TRANSISTOR		
Q2254	or RN1302-X	DIGI TRANSISTOR		
Q2255	DTC114EUA-X	DIGI TRANSISTOR		A,B,C,D,E
Q2255	or PDTC114EU-X	DIGI TRANSISTOR		A,B,C,D,E
Q2255	or UN5211-X	DIGI TRANSISTOR		A,B,C,D,E
Q2255	or RN1302-X	DIGI TRANSISTOR		A,B,C,D,E
Q3003	PTZ-NV16A	IC(PHOTO SENSOR)		
Q3004	2SD1819A/QRS/-X	TRANSISTOR		
Q3004	or 2SC4081/QRS/-X	TRANSISTOR		
Q3004	or 2PC4081/R/-X	TRANSISTOR		
Q3005	2SD1819A/QRS/-X	TRANSISTOR		
Q3005	or 2SC4081/QRS/-X	TRANSISTOR		
Q3005	or 2PC4081/R/-X	TRANSISTOR		
Q4001	UN5211-X	DIGI TRANSISTOR		
Q4001	or DTC114EUA-X	DIGI TRANSISTOR		
Q4001	or PDTC114EU-X	DIGI TRANSISTOR		
Q4001	or RN1302-X	DIGI TRANSISTOR		
Q5101	2SK2632-CB14	POWER MOS FET		
Q5101	or 2SK2129-LT	POWER MOS FET		
Q5101	or 2SK2632	POWER MOS FET		
Q5101	or 2SK2129	POWER MOS FET		
Q5102	2SD2144S/UV/-T	TRANSISTOR		
Q5301	2SC1740S/RS/-T	TRANSISTOR		
Q5301	or 2SC3199/YG/-T	TRANSISTOR		
Q5303	2SC5739/QP/	TRANSISTOR		
⚠ Q5304	2SD2144S/UV/-T	TRANSISTOR		
Q5305	DTA114EUA-X	DIGI TRANSISTOR		
Q5305	or UN5111-X	DIGI TRANSISTOR		
Q5305	or RN2302-X	DIGI TRANSISTOR		
Q5305	or PDTA114EU-X	DIGI TRANSISTOR		
Q5306	DTC114EUA-X	DIGI TRANSISTOR		
Q5306	or UN5211-X	DIGI TRANSISTOR		
Q5306	or RN1302-X	DIGI TRANSISTOR		
Q5306	or PDTC114EU-X	DIGI TRANSISTOR		
Q5307	2SD2144S/UV/-T	TRANSISTOR		
Q6030	2SB1218A/RS/-X	TRANSISTOR		
Q6031	DTC114EUA-X	DIGI TRANSISTOR		
Q6031	or UN5211-X	DIGI TRANSISTOR		
Q6031	or RN1302-X	DIGI TRANSISTOR		
Q6031	or PDTC114EU-X	DIGI TRANSISTOR		
Q6032	DTC114EUA-X	DIGI TRANSISTOR		
Q6032	or UN5211-X	DIGI TRANSISTOR		
Q6032	or RN1302-X	DIGI TRANSISTOR		
Q6032	or PDTC114EU-X	DIGI TRANSISTOR		
Q7001	2SB1218A/QR/-X	TRANSISTOR		
Q7001	or 2SA1576A/QR/-X	TRANSISTOR		
Q7001	or 2PA1576/R/-X	TRANSISTOR		
Q7002	2SB1218A/QR/-X	TRANSISTOR		
Q7002	or 2SA1576A/QR/-X	TRANSISTOR		
Q7002	or 2PA1576/R/-X	TRANSISTOR		
Q7003	2SB1218A/QR/-X	TRANSISTOR		
Q7003	or 2SA1576A/QR/-X	TRANSISTOR		
Q7003	or 2PA1576/R/-X	TRANSISTOR		
Q7004	2SB1218A/QR/-X	TRANSISTOR		
Q7004	or 2SA1576A/QR/-X	TRANSISTOR		
Q7004	or 2PA1576/R/-X	TRANSISTOR		
Q7005	2SB1218A/QR/-X	TRANSISTOR		
Q7005	or 2SA1576A/QR/-X	TRANSISTOR		
Q7005	or 2PA1576/R/-X	TRANSISTOR		
Q7006	2SB1218A/QR/-X	TRANSISTOR		
Q7006	or 2SA1576A/QR/-X	TRANSISTOR		
Q7006	or 2PA1576/R/-X	TRANSISTOR		
Q7007	2SB1218A/QR/-X	TRANSISTOR		
Q7007	or 2SA1576A/QR/-X	TRANSISTOR		
Q7007	or 2PA1576/R/-X	TRANSISTOR		
Q7008	DTC143TUA-X	DIGI TRANSISTOR		
Q7008	or UN5216-X	DIGI TRANSISTOR		
Q7009	DTC143TUA-X	DIGI TRANSISTOR		
Q7009	or UN5216-X	DIGI TRANSISTOR		
Q7010	DTC143TUA-X	DIGI TRANSISTOR		
Q7010	or UN5216-X	DIGI TRANSISTOR		
Q7011	DTC143TUA-X	DIGI TRANSISTOR		
Q7011	or UN5216-X	DIGI TRANSISTOR		
Q7012	DTC143TUA-X	DIGI TRANSISTOR		
Q7012	or UN5216-X	DIGI TRANSISTOR		
Q7013	DTC143TUA-X	DIGI TRANSISTOR		
Q7013	or UN5216-X	DIGI TRANSISTOR		
Q7014	DTC143TUA-X	DIGI TRANSISTOR		
Q7014	or UN5216-X	DIGI TRANSISTOR		
Q7101	2SB1218A/QR/-X	TRANSISTOR		
Q7101	or 2SA1576A/QR/-X	TRANSISTOR		
Q7101	or 2PA1576/R/-X	TRANSISTOR		
Q7102	DTC144WUA-X	DIGI TRANSISTOR		
Q7102	or UN521E-X	DIGI TRANSISTOR		
Q7102	or RN1309-X	DIGI TRANSISTOR		
Q7102	or PDTC144WU-X	DIGI TRANSISTOR		
Q7103	2SC4081/QRS/-X	TRANSISTOR		
Q7103	or 2SD1819A/QRS/-X	TRANSISTOR		
Q7103	or 2PC4081/R/-X	TRANSISTOR		
Q7104	2SB1218A/QR/-X	TRANSISTOR		
Q7104	or 2SA1576A/QR/-X	TRANSISTOR		
Q7104	or 2PA1576/R/-X	TRANSISTOR		
Q7105	DTC144WUA-X	DIGI TRANSISTOR		
Q7105	or UN521E-X	DIGI TRANSISTOR		
Q7105	or RN1309-X	DIGI TRANSISTOR		
Q7105	or PDTC144WU-X	DIGI TRANSISTOR		
Q7106	2SB1218A/QR/-X	TRANSISTOR		
Q7106	or 2SA1576A/QR/-X	TRANSISTOR		
Q7106	or 2PA1576/R/-X	TRANSISTOR		

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
D201	1SS133-T2	SI DIODE		
D2001	1SS133-T2	SI DIODE		
D2001 or	1SS270A-T2	SI DIODE		
D2251	1SS133-T2	SI DIODE		
D2251 or	1SS270A-T2	SI DIODE		
D3001	LNB2301L01VI	LED		
D3002	1SS133-T2	SI DIODE		
D3002 or	1SS270A-T2	SI DIODE		
D3003	RD39ES/B3/-T2	Z DIODE		
D3003 or	MTZJ39C-T2	Z DIODE		
D3004	11ES2-T2	SI DIODE		
D3004 or	1A3G-T2	SI DIODE		
⚠ D3005	11ES2-T2	SI DIODE		
⚠ D3005 or	1A3G-T2	SI DIODE		
D5001	S1WB/A/60-4102	BRIDGE DIODE		
D5001 or	S1WB/A/60-X	BRIDGE DIODE		
D5001 or	S1WB(A)60F4072X	BRIDGE DIODE		
D5101	AU01-T2	SI DIODE		
D5101 or	1SR153-400-T2	FR DIODE		
D5101 or	ERA18-04-T2	FR DIODE		
D5101 or	10ELS4-T2	FR DIODE		
D5102	AU01-T2	SI DIODE		
D5102 or	1SR153-400-T2	FR DIODE		
D5102 or	ERA18-04-T2	FR DIODE		
D5102 or	10ELS4-T2	FR DIODE		
D5103	1SS133-T2	SI DIODE		
D5103 or	1SS270A-T2	SI DIODE		
D5105	1SS133-T2	SI DIODE		
D5105 or	1SS270A-T2	SI DIODE		
D5203	AU01Z-T2	FR DIODE		
D5203 or	10ELS2-T2	FR DIODE		
D5204	AU01Z-T2	FR DIODE		
D5204 or	10ELS2-T2	FR DIODE		
⚠ D5207	AK04-T2	SB DIODE		
⚠ D5207 or	11EQS04-T2	SB DIODE		
⚠ D5207 or	1S4-T2	SB DIODE		
⚠ D5207 or	SBO40-T2	SB DIODE		
⚠ D5209	AK04-T2	SB DIODE		
⚠ D5209 or	11EQS04-T2	SB DIODE		
⚠ D5209 or	1S4-T2	SB DIODE		
⚠ D5209 or	SBO40-T2	SB DIODE		
D5210	AU01Z-T2	FR DIODE		
D5210 or	ERA18-02-T2	FR DIODE		
D5210 or	1SR153-400-T2	FR DIODE		
D5210 or	10ELS2-T2	FR DIODE		
D5210 or	PG104RS-T2	FR DIODE		
D5301	MTZJ15C-T2	Z DIODE		
D5301 or	RD15ES/B3/-T2	Z DIODE		
D5302	MTZJ11C-T2	Z DIODE		
D5302 or	RD11ES/B3/-T2	Z DIODE		
D5303	MTZJ5.6A-T2	Z DIODE		
D5303 or	RD5.6ES/B1/-T2	Z DIODE		
D5305	MTZJ5.6C-T2	Z DIODE		
D5305 or	RD5.6ES/B3/-T2	Z DIODE		
D6002	HZ30-2L-T2	Z DIODE		
D6002 or	HZ30-2LTD	Z DIODE (M)		
D6701	1SS133-T2	SI DIODE		
D6701 or	1SS270A-T2	SI DIODE		
PC3001	RPI-304J	IC(PHOTO SENSOR)		
PC3002	RPI-304J	IC(PHOTO SENSOR)		
⚠ PC5101	PC123Y22	IC(PHOTO COUPLER)		
C1	NDC21HJ-151X	C CAPACITOR	150pF 50V J	
C2	NDC21HJ-4R0X	C CAPACITOR	4pF 50V J	
C3	NDC21HJ-470X	C CAPACITOR	47pF 50V J	
C4	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C5	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C6	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C7	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C8	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C9	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C10	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C11	QEPF1HM-105Z	E CAPACITOR	1uF 50V M	
C12	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C14	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C15	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C16	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	

⚠ Symbol No.	Part No.	Part Name	Description	Local
C18	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C19	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C20	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C21	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C23	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C24	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C25	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C26	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C27	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C30	NCB21HK-331X	C CAPACITOR	330pF 50V K	
C31	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C32	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C33	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C34	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C35	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C36	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C37	NDC21HJ-4R0X	C CAPACITOR	4pF 50V J	
C38	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C39	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C40	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C41	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C43	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C44	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C45	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C46	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C47	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C48	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C49	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C50	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C51	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
C52	NDC21HJ-150X	C CAPACITOR	15pF 50V J	
C55	NDC21HJ-151X	C CAPACITOR	150pF 50V J	
C56	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C57	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C58	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C59	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C60	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C61	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	
C62	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C63	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C64	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C66	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C71	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C73	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C73	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,F,G
C74	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C75	NDC21HJ-390X	C CAPACITOR	39pF 50V J	E
C201	NDC21HJ-220X	C CAPACITOR	22pF 50V J	
C202	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
C203	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C204	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C205	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C207	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C209	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C210	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C211	NCB21HK-271X	C CAPACITOR	270pF 50V K	E
C212	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C214	NDC21HJ-150X	C CAPACITOR	15pF 50V J	
C215	NDC21HJ-270X	C CAPACITOR	27pF 50V J	
C251	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C252	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M	
C253	NCB21EK-563X	C CAPACITOR	0.056uF 25V K	
C254	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C255	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C256	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C257	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C258	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	
C259	QEKJ0JM-227Z	E CAPACITOR	220uF 6.3V M	
C501	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C502	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C503	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C504	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C507	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C508	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C509	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C510	QCBB1HK-103Y	C CAPACITOR	0.01uF 50V K	
C511	QEKJ0JM-337Z	E CAPACITOR	330uF 6.3V M	
C513	NCB21HK-221X	C CAPACITOR	220pF 50V K	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C514	NDC21HG-271X	C CAPACITOR	270pF 50V G	
C515	NDC21HJ-121X	C CAPACITOR	120pF 50V J	
C516	NDC21HG-271X	C CAPACITOR	270pF 50V G	
C517	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C518	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C519	NDC31HG-271C	C CAPACITOR	270pF 50V G	A,B,C,D,E
C519	NDC21HG-271X	C CAPACITOR	270pF 50V G	
C520	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C521	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C522	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C523	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C524	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C525	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C528	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C529	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C530	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C534	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C535	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	E
C536	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C539	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C582	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C584	NDC21HJ-390X	C CAPACITOR	39pF 50V J	
C585	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C586	NDC21HJ-181X	C CAPACITOR	180pF 50V J	
C587	NDC21HJ-390X	C CAPACITOR	39pF 50V J	
C588	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C589	NDC21HJ-330X	C CAPACITOR	33pF 50V J	
C590	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C592	NDC21HJ-820X	C CAPACITOR	82pF 50V J	
C593	NDC21HJ-220X	C CAPACITOR	22pF 50V J	
C594	NDC21HJ-820X	C CAPACITOR	82pF 50V J	
C595	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C596	NDC21HJ-220X	C CAPACITOR	22pF 50V J	
C597	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C598	NDC21HJ-121X	C CAPACITOR	120pF 50V J	
C599	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C2001	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2002	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C2003	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2005	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2006	NCB21HK-682X	C CAPACITOR	6800pF 50V K	
C2007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2008	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2009	NCB21HK-122X	C CAPACITOR	1200pF 50V K	
C2010	NCB21HK-152X	C CAPACITOR	1500pF 50V K	
C2011	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2012	QEKC1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2051	NCB21HK-331X	C CAPACITOR	330pF 50V K	
C2052	QFLC1HJ-823Z	M CAPACITOR	0.082uF 50V J	
C2053	NCB21HK-472X	C CAPACITOR	4700pF 50V K	
C2054	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C2055	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2201	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2202	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2203	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2204	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M	
C2205	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2206	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2207	NCB21HK-153X	C CAPACITOR	0.015uF 50V K	
C2208	NCB21HK-153X	C CAPACITOR	0.015uF 50V K	
C2209	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
C2210	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
C2211	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M	
C2212	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2214	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2215	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2216	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C2218	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	A,B,C,D,F,G
C2219	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	A,B,C,D,F,G
C2220	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2221	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C2222	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2223	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C2224	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C2225	NCB21AK-105X	C CAPACITOR	1uF 10V K	A,B,C,D,E
C2226	NCB21AK-105X	C CAPACITOR	1uF 10V K	A,B,C,D,E
C2227	QERF1CM-106Z	E CAPACITOR	10uF 16V M	
C2230	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	A,B,C,D,E
C2231	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	A,B,C,D,E
C2251	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2252	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2253	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2254	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2255	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2256	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2257	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C2258	NDC21HJ-181X	C CAPACITOR	180pF 50V J	A,B,C,D,E
C2259	QEKJ1HM-334Z	E CAPACITOR	0.33uF 50V M	
C3004	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C3011	QETL0JM-338	E CAPACITOR	3300uF 6.3V M	
C3012	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3013	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3014	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3016	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C3022	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C3024	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C3025	QAT3725-300Z	TRIM CAPACITOR	30pF,TIMER CLOCK	A,B,C,D
C3030	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3031	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C3033	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	
C3036	NDC21HJ-180X	C CAPACITOR	18pF 50V J	
C3037	NDC21HJ-120X	C CAPACITOR	12pF 50V J	
C3041	NDC21HJ-180X	C CAPACITOR	18pF 50V J	E,F,G
C3041	NDC21HJ-180C	C CAPACITOR	18pF 50V J	F,G
C3041	NDC31HJ-180C	C CAPACITOR	18pF 50V J	F,G
C3045	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3050	NCF21EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3051	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C3052	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C3054	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C3056	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C3057	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C3071	QEKJ1CM-336Z	E CAPACITOR	33uF 16V M	
C4002	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C4004	QERF1CM-226Z	E CAPACITOR	22uF 16V M	
C4005	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C4006	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C4008	QEQF1HM-105Z	E CAPACITOR	1uF 50V M	
C4009	NCB21HK-563X	C CAPACITOR	0.056uF 50V K	
C4010	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	
C4011	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	
C4012	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
C4014	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C4015	NCB21HK-102X	C CAPACITOR	1000pF 50V K	
C4016	NDC21HJ-101X	C CAPACITOR	100pF 50V J	
C4031	QEKJ1CM-336Z	E CAPACITOR	33uF 16V M	
⚠ C5001	QFZ9072-473	MM CAPACITOR	0.047uF AC250V K	
⚠ C5004	QCZ9071-222	C CAPACITOR	2200pF AC400V M	
C5006	QEZ0375-686	E CAPACITOR	68uF 400V M	
C5101	QCZ0212-472	C CAPACITOR	4700pF 1kV K	
C5102	QCZ0339-101Z	C CAPACITOR	100pF	
C5104	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C5105	QFN31HJ-183Z	M CAPACITOR	0.018uF 50V J	
C5106	QCBB1HJ-271Y	C CAPACITOR	270pF 50V J	
C5107	QFV91HJ-104Z	MF CAPACITOR	0.1uF 50V J	
C5202	QETN1CM-108Z	E CAPACITOR	1000uF 16V M	
C5203	QEMT1AM-128	E CAPACITOR	1200uF 10V M	
C5204	QETJ2AM-475Z	E CAPACITOR	4.7uF 100V M	
C5206	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C5207	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5301	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5303	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C5305	QFVF1HJ-274Z	MF CAPACITOR	0.27uF 50V J	
C5307	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C5308	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
C6006	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C6008	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C6013	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C6014	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	A,B,C,D,F,G
C6016	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	A,B,C,D,F,G
C6020	NDC21HJ-101X	C CAPACITOR	100pF 50V J	E
C6021	NDC21HJ-101X	C CAPACITOR	100pF 50V J	E
C6032	NCB21EK-473X	C CAPACITOR	0.047uF 25V K	A,B,C,D,F,G
C6037	QEKJ1HM-106Z	E CAPACITOR	10uF 50V M	
C6501	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C6502	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C6704	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C6707	NDC21HJ-470X	C CAPACITOR	47pF 50V J	
C6708	NDC21HJ-8R0X	C CAPACITOR	8pF 50V J	
C6709	NDC21HJ-2R0X	C CAPACITOR	2pF 50V J	
C6713	NCF21CZ-224X	C CAPACITOR	0.22uF 16V Z	
C6714	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C6715	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C6716	NCB21HK-222X	C CAPACITOR	2200pF 50V K	
C6717	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C6719	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C6720	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C6721	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C6723	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C7011	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C7103	NCB21HK-681X	C CAPACITOR	680pF 50V K	A,B,C,D,E
C7104	NCB21HK-681X	C CAPACITOR	680pF 50V K	A,B,C,D,E
C7106	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	A,B,C,D,E
C7114	QETN0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7119	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7120	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7123	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	F,G
C7128	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	
C7129	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	A,B,C,D,E
C7133	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C7134	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C7135	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C7136	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C7137	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C7138	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
C7139	QEKJ1HM-106Z	E CAPACITOR	10uF 50V M	
C7143	NDC21HJ-330X	C CAPACITOR	33pF 50V J	A,B,C,D,E
C7144	NDC21HJ-680X	C CAPACITOR	68pF 50V J	A,B,C,D,E
C7145	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	A,B,C,D,E
C7155	NDC21HJ-680X	C CAPACITOR	68pF 50V J	A,B,C,D,E
C7156	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	A,B,C,D,E
C7157	QEPF1HM-474Z	E CAPACITOR	0.47uF 50V M	A,B,C,D,E
C7158	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	A,B,C,D,E
C7159	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	A,B,C,D,E
C7168	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7169	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7170	NCB21HK-821X	C CAPACITOR	820pF 50V K	
C7171	NCB21HK-821X	C CAPACITOR	820pF 50V K	
C7182	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7183	NCB21HK-681X	C CAPACITOR	680pF 50V K	
C7197	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	
B3	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,F,G
B5	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,F,G
B203	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B502	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B581	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B2003	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B3003	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,F,G
B6051	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,F,G
B6701	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B7108	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
B7113	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,E
R1	NRSA02J-622X	MG RESISTOR	6.2kΩ 1/10W J	
R2	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	
R3	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R4	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R11	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R12	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R14	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R17	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R20	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R21	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R22	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R23	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	E
R24	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	E
R25	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R26	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	E
R28	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R29	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R30	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R31	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R33	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J	E
R34	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	E

⚠ Symbol No.	Part No.	Part Name	Description	Local
R35	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	E
R36	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R37	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J	
R39	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	E
R201	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R202	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R203	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R204	NRSA02J-474X	MG RESISTOR	470kΩ 1/10W J	
R205	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R206	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	E
R207	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R208	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R210	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R211	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R212	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R213	NRSA02J-105X	MG RESISTOR	1MΩ 1/10W J	
R214	NRSA02J-474X	MG RESISTOR	470kΩ 1/10W J	
R251	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R252	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
R254	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R255	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	
R256	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R258	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R259	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R260	QRE141J-471Y	C RESISTOR	470Ω 1/4W J	
R261	QRE141J-471Y	C RESISTOR	470Ω 1/4W J	
R501	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R503	NRVA02D-152X	CMF RESISTOR	1.5kΩ 1/10W D	
R504	NRVA02D-561X	CMF RESISTOR	560Ω 1/10W D	
R505	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	
R506	NRVA02D-392X	CMF RESISTOR	3.9kΩ 1/10W D	
R507	NRVA02D-392X	CMF RESISTOR	3.9kΩ 1/10W D	
R508	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	
R510	NRSA02J-475X	MG RESISTOR	4.7MΩ 1/10W J	
R581	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R582	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R583	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R584	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R585	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R586	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R587	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R588	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	
R589	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R590	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R591	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R592	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R593	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R594	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R595	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R596	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R597	NRSA02J-391X	MG RESISTOR	390Ω 1/10W J	
R2003	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R2005	QRE141J-153Y	C RESISTOR	15kΩ 1/4W J	
R2007	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2008	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2010	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R2013	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R2014	NRSA02J-394X	MG RESISTOR	390kΩ 1/10W J	
R2015	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R2016	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R2017	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2021	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J	
R2022	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2023	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R2024	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2054	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω 1/10W J	
R2056	QRE141J-820Y	C RESISTOR	82Ω 1/4W J	
R2057	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2058	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2059	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2060	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R2201	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2202	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2205	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R2206	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2209	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R2210	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2211	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	
R2212	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	
R2213	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2214	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	
R2215	QRE141J-181Y	C RESISTOR	180Ω 1/4W J	
R2216	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	A,B,C,D,F,G
R2217	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	A,B,C,D,F,G
R2218	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R2219	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R2220	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R2222	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2223	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J	
R2224	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J	
R2225	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2226	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R2227	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R2228	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R2229	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R2230	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2231	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2232	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R2233	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R2234	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R2235	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	A,B,C,D,E
R2236	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	A,B,C,D,E
R2237	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	A,B,C,D,E
R2238	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	A,B,C,D,E
R2251	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R2252	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R2253	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R2254	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R2255	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	
R2256	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R3024	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3025	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3027	QRE141J-682Y	C RESISTOR	6.8kΩ 1/4W J	
R3029	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
R3033	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3034	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3035	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3038	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3039	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3040	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3043	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3053	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3054	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3058	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3059	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3060	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3061	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3062	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R3063	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3064	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3065	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3066	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3067	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3069	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3072	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3073	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3074	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3077	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3080	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R3082	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3083	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	A,B,C,D,E
R3085	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3087	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	A,B,C,D,E
R3088	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
R3089	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
R3096	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3097	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3098	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3099	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R3102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R3205	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R3207	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R3208	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J	
R3209	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R3210	NRSA02J-121X	MG RESISTOR	120Ω 1/10W J	
R3211	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	
R3212	NRSA02J-474X	MG RESISTOR	470kΩ 1/10W J	
R3213	NRSA02J-334X	MG RESISTOR	330kΩ 1/10W J	
R3214	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3215	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3216	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3217	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3218	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3220	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	
R3221	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R3222	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3223	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3224	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3225	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3229	NRSA02J-105X	MG RESISTOR	1MΩ 1/10W J	
R3232	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	
R3246	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R3248	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R3252	NRSA02J-153X	MG RESISTOR	15kΩ 1/10W J	
R3253	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R4003	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R4004	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	
R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R4007	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4009	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R4015	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R4017	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R5101	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5102	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5103	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J	
R5104	QRG02GJ-683	OMF RESISTOR	68kΩ 2W J	
R5106	QRT01DJ-R39X	MF RESISTOR	0.39Ω 1W J	
R5107	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R5108	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	
R5109	QRE141J-561Y	C RESISTOR	560Ω 1/4W J	
R5110	NRSA02J-224X	MG RESISTOR	220kΩ 1/10W J	
R5111	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R5112	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R5302	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R5304	QRE141J-471Y	C RESISTOR	470Ω 1/4W J	
R5306	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R5310	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R5312	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R5313	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	
R5319	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R5332	QRL02DJ-391X	OMF RESISTOR	390Ω 2W J	
R6020	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6021	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6030	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6031	NRSA02J-271X	MG RESISTOR	270Ω 1/10W J	
R6032	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	E
R6032	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	A,B,C,D,F,G
R6033	NRSA02J-183X	MG RESISTOR	18kΩ 1/10W J	E
R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	A,B,C,D,F,G
R6050	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	A,B,C,D,F,G
R6051	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	A,B,C,D,F,G
R6052	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	A,B,C,D,F,G
R6056	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	A,B,C,D,F,G
R6080	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6707	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R6708	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R6709	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6710	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R6711	QRE141J-474Y	C RESISTOR	470kΩ 1/4W J	
R6712	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6713	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R6714	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R6715	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	
R6716	QRE141J-470Y	C RESISTOR	47Ω 1/4W J	
R6719	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R6720	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	
R6721	NRSA02J-562X	MG RESISTOR	5.6kΩ 1/10W J	
R7001	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7002	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7003	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7004	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7005	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7006	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7007	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R7015	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R7020	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R7021	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R7022	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R7023	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R7024	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	
R7025	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R7026	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R7030	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
R7031	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	
R7032	NRSA02J-182X	MG RESISTOR	1.8kΩ 1/10W J	
R7033	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
R7101	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	
R7102	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R7103	QRE141J-331Y	C RESISTOR	330Ω 1/4W J	
R7105	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R7107	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R7108	NRSA02J-680X	MG RESISTOR	68Ω 1/10W J	A,B,C,D,E
R7109	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7110	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	A,B,C,D,E
R7111	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	A,B,C,D,E
R7113	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7114	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R7116	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R7117	QRE141J-680Y	C RESISTOR	68Ω 1/4W J	
R7119	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R7120	NRSA02J-221X	MG RESISTOR	220Ω 1/10W J	
R7131	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
R7133	QRE141J-471Y	C RESISTOR	470Ω 1/4W J	A,B,C,D,E
R7134	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	A,B,C,D,E
R7134	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	F,G
R7138	NRSA02J-750X	MG RESISTOR	75Ω 1/10W J	
R7139	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R7140	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
R7141	NRSA02J-820X	MG RESISTOR	82Ω 1/10W J	
R7144	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R7145	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	
R7146	NRSA02J-393X	MG RESISTOR	39kΩ 1/10W J	
R7147	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	
R7148	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	
R7182	NRSA02J-564X	MG RESISTOR	560kΩ 1/10W J	A,B,C,D,E
VR2251	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
W1	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W2	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W3	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W4	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W5	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W6	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W7	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W8	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W9	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W10	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W11	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W13	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W14	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	A,B,C,D,E
W18	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W19	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W20	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W21	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W23	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W24	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W25	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W26	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W27	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W28	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W29	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W30	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
W32	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
L1	QQL071J-101Y	COIL	100uH J	
L3	QQL29BJ-100Z	P COIL	10uH J	
L5	QQL29BJ-100Z	P COIL	10uH J	
L6	QQL29BJ-100Z	P COIL	10uH J	
L7	QQR0967-001	CHOKE COIL		
L9	QQL071J-100Y	COIL	10uH J	
L10	QQL29BJ-100Z	P COIL	10uH J	
L14	QQL071J-101Y	COIL	100uH J	E
L201	QQL071J-150Y	COIL	15uH J	
L204	QQL071J-151Y	COIL	150uH J	
L205	QQL071J-5R6Y	COIL	5.6uH J	E
L251	QQL231J-100Y	COIL	10uH J	
L252	QQL231J-100Y	COIL	10uH J	
L253	QQL231J-1R0Y	COIL	1uH J	
L501	QQL29BJ-101Z	P COIL	100uH J	
L502	QQL29BJ-100Z	P COIL	10uH J	
L582	QQL071J-390Y	COIL	39uH J	
L583	QQL071J-120Y	COIL	12uH J	
L584	QQL071J-101Y	COIL	100uH J	
L585	QQL071J-330Y	COIL	33uH J	
L586	QQL071J-470Y	COIL	47uH J	
L587	QQL071J-120Y	COIL	12uH J	
L588	QQL071J-560Y	COIL	56uH J	
L589	QQL071J-101Y	COIL	100uH J	
L590	QQL071J-560Y	COIL	56uH J	
L591	QQL071J-470Y	COIL	47uH J	
L2251	QQL29BJ-100Z	P COIL	10uH J	
L2252	QQL29BJ-151Z	P COIL	150uH J	A,B,C,D,E
L3001	QQL231J-100Y	COIL	10uH J	
L5201	PELN1184	CHOKE COIL		
L5202	PELN1184	CHOKE COIL		
L6001	QQL29BK-1R0Z	P COIL	1uH K	
L6002	QQL29BK-1R0Z	P COIL	1uH K	
L6501	QQL29BK-1R0Z	P COIL	1uH K	
L6502	QQL29BJ-3R3Z	P COIL	3.3uH J	E
L7101	QQL231J-1R0Y	COIL	1uH J	
L7102	QQL231J-1R0Y	COIL	1uH J	
L7107	QQL29BJ-100Z	P COIL	10uH J	F,G
L7108	QQL29BJ-100Z	P COIL	10uH J	
L7110	QQL231J-1R0Y	COIL	1uH J	A,B,C,D,E
L7113	QQL231J-1R0Y	COIL	1uH J	
L7114	QQL231J-1R0Y	COIL	1uH J	
R7127	NQL402M-4R7X	COIL	4.7uH M	
R7128	NQL402M-4R7X	COIL	4.7uH M	
T2051	PELN0832	OSC TRANS		
⚠ T5001	QQS0186-001	SW TRANSF		
B6702	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
B7103	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	F,G
CN1	QGF1201C2-09	CONNECTOR	FFC/FPC (1-9)	
CN512	QGF1201C2-11	CONNECTOR	FFC/FPC (1-11)	E
CN2001	QGF1207C1-06	CONNECTOR	FFC/FPC (1-6)	
CN2002	QGB2532J1-02	CONNECTOR	B-B (1-2)	
CN3001	QGB2032M4-12	CONNECTOR	B-B (1-12)	
⚠ CN5001	QGA7901C3-02	CONNECTOR	W-B (1-2)	
⚠ CP3002	NMFZ012-1R0X-M	FUSE	1A	
⚠ CP4002	NMFZ012-1R0X-M	FUSE	1A	
DI7001	LTG-0126M-03J	LED		
⚠ F5001	QMF51E2-2R0J1	FUSE	2A AC250V	
FC5001	QNG0006-001Z	FUSE CLIP		
FC5002	QNG0006-001Z	FUSE CLIP		
HS1	LP40090-001A	HEAT SINK	Q5101	
J7101	PEMC1104	RGB21PIN SOCKET	AV1	
J7102	PEMC1104	RGB21PIN SOCKET	AV2/DECODER	
J7103	QNN0292-003	PIN JACK	REAR AUDIO OUT	
JS3001	QSW0954-002	ROTARY ENCODER		
K5101	QQR0678-001Z	FERRITE BEADS		
K6701	NQR0200-003X	FERRITE BEADS		
K6702	NQR0200-003X	FERRITE BEADS		
K6703	NQR0200-003X	FERRITE BEADS		
K6704	NQR0200-003X	FERRITE BEADS		
K6705	NQR0200-003X	FERRITE BEADS		
K6706	NQR0200-003X	FERRITE BEADS		
K6707	NQR0200-003X	FERRITE BEADS		E
⚠ LF5002	QQR0978-001	LINE FILTER		
OT3	QYTDST3006Z	TAP SCREW	3mm x 6mm,Q5101	
S3001	QSW0602-004	PUSH SWITCH	REC SAFETY	
S3002	QSW0602-004	PUSH SWITCH	S.CASSETTE	

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
S7002	QSW0456-002Z	TACT SWITCH	POWER	
S7003	QSW0456-002Z	TACT SWITCH	PR -	
S7004	QSW0456-002Z	TACT SWITCH	REW	
S7006	QSW0456-002Z	TACT SWITCH	FF	
S7010	QSW0456-002Z	TACT SWITCH	REC	
S7011	QSW0456-002Z	TACT SWITCH	PAUSE	
S7013	QSW0456-002Z	TACT SWITCH	STOP/EJECT	
S7015	QSW0456-002Z	TACT SWITCH	PLAY	
S7017	QSW0456-002Z	TACT SWITCH	PR +	
SD1	LP21105-002A	SHIELD CASE		
TU6001	QAU0266-001	TUNER		E
TU6001	QAU0261-002	TUNER		A,B,C,D,F,G
W12	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
W15	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	F,G
X1	QAX0740-001	CRYSTAL		
X201	QAX0751-001	CRYSTAL		
X3001	QAX0445-001	CRYSTAL		
X3002	QAX0527-001	CRYSTAL		
X6701	QAX0443-001	CRYSTAL		

A/C HEAD BOARD ASSEMBLY <12>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A1	A/C HEAD BOARD ASSY		

LOADING BOARD ASSEMBLY <55>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A2	LOADING MOTOR BOARD ASSY		

S-P CONVERTER BOARD ASSEMBLY <87>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10144-05A	S-P CONVERTER BOARD ASSY		E
IC1601	BA7046F-XE	IC		E
IC1602	74HC132D-X	IC(DIGITAL)		E
IC1603	74HC4538D-X	IC		E
IC1604	74HC74D-X	IC		E
IC1605	TDA8395	IC		E
IC1606	TDA4665T-X	IC		E
IC1607	TDA8501T/N1-X	IC		E
Q1601	2SB1218A/QR/-X	TRANSISTOR		E
Q1601 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1601 or	2PA1576/R/-X	TRANSISTOR		E
Q1604	2SD1819A/QRS/-X	TRANSISTOR		E
Q1604 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1604 or	2PC4081/R/-X	TRANSISTOR		E
Q1605	2SB1218A/QR/-X	TRANSISTOR		E
Q1605 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1605 or	2PA1576/R/-X	TRANSISTOR		E
Q1606	2SC1740S/QRS/-T	TRANSISTOR		E
Q1607	2SD1819A/QRS/-X	TRANSISTOR		E
Q1607 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1607 or	2PC4081/R/-X	TRANSISTOR		E
Q1608	2SB1218A/QR/-X	TRANSISTOR		E
Q1608 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1608 or	2PA1576/R/-X	TRANSISTOR		E
Q1609	2SD1819A/QRS/-X	TRANSISTOR		E
Q1609 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1609 or	2PC4081/R/-X	TRANSISTOR		E
Q1610	2SD1819A/QRS/-X	TRANSISTOR		E
Q1610 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1610 or	2PC4081/R/-X	TRANSISTOR		E
Q1611	2SB1218A/QR/-X	TRANSISTOR		E
Q1611 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1611 or	2PA1576/R/-X	TRANSISTOR		E
Q1612	2SD1819A/QRS/-X	TRANSISTOR		E
Q1612 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1612 or	2PC4081/R/-X	TRANSISTOR		E
Q1613	2SC4083/NP/-X	TRANSISTOR		E
Q1614	2SB1218A/QR/-X	TRANSISTOR		E
Q1614 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1614 or	2PA1576/R/-X	TRANSISTOR		E
Q1615	2SD1819A/QRS/-X	TRANSISTOR		E
Q1615 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1615 or	2PC4081/R/-X	TRANSISTOR		E
Q1616	2SD1819A/QRS/-X	TRANSISTOR		E
Q1616 or	2SC4081/QRS/-X	TRANSISTOR		E
Q1616 or	2PC4081/R/-X	TRANSISTOR		E
Q1617	2SB1218A/QR/-X	TRANSISTOR		E
Q1617 or	2SA1576A/QR/-X	TRANSISTOR		E
Q1617 or	2PA1576/R/-X	TRANSISTOR		E
Q1619	DTA143TUA-X	DIGI TRANSISTOR		E
D1601	1SS133-T2	SI DIODE		E
C1601	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	E
C1602	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1605	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	E
C1606	NCB21HK-102X	C CAPACITOR	1000pF 50V K	E
C1607	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1608	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	E
C1609	NCB21HK-222X	C CAPACITOR	2200pF 50V K	E
C1610	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	E
C1611	NDC21HJ-101X	C CAPACITOR	100pF 50V J	E
C1612	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	E
C1613	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	E
C1614	NDC21HJ-471X	C CAPACITOR	470pF 50V J	E
C1615	NDC21HJ-561X	C CAPACITOR	560pF 50V J	E
C1616	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	E
C1631	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	E
C1632	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	E
C1633	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1634	NDC21HJ-101X	C CAPACITOR	100pF 50V J	E
C1635	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	E
C1636	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	E
C1637	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1638	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	E
C1639	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1640	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	E
C1641	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1642	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1643	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1644	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1645	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	E
C1646	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	E
C1647	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	E
C1648	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	E
C1649	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1650	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	E
C1651	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	E
C1652	NDC21HJ-120X	C CAPACITOR	12pF 50V J	E
C1653	NCB21CK-224X	C CAPACITOR	0.22uF 16V K	E
C1654	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C1655	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	E
C1656	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
R1601	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	E
R1605	NDC21HJ-331X	C CAPACITOR	330pF 50V J	E
R1606	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
R1608	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R1609	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1610	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1611	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	E
R1612	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	E
R1615	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	E
R1616	NRSA02J-474X	MG RESISTOR	470kΩ 1/10W J	E
R1617	NRSA02J-474X	MG RESISTOR	470kΩ 1/10W J	E
R1618	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	E
R1619	NRSA02J-134X	MG RESISTOR	130kΩ 1/10W J	E
R1620	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	E
R1621	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	E

MODEL	MARK	MODEL	MARK
HR-S5960EX	A	HR-S5965EF	E
HR-S5961EX	B	HR-S5965EK	F
HR-S5962EX	C	HR-S5966EK	G
HR-S5963EX	D		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R1622	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	E
R1623	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	E
R1624	NRSA02J-124X	MG RESISTOR	120kΩ 1/10W J	E
R1631	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	E
R1632	NRSA02J-332X	MG RESISTOR	3.3kΩ 1/10W J	E
R1633	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	E
R1635	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	E
R1636	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1637	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	E
R1638	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	E
R1639	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	E
R1640	NRSA02J-122X	MG RESISTOR	1.2kΩ 1/10W J	E
R1641	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1642	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	E
R1643	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	E
R1644	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J	E
R1645	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R1646	NRSA02J-104X	MG RESISTOR	100kΩ 1/10W J	E
R1647	NRSA02J-152X	MG RESISTOR	1.5kΩ 1/10W J	E
R1648	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1651	NRSA02J-123X	MG RESISTOR	12kΩ 1/10W J	E
R1652	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1653	NRSA02J-184X	MG RESISTOR	180kΩ 1/10W J	E
R1654	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	E
R1655	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1656	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R1657	NRSA02J-561X	MG RESISTOR	560Ω 1/10W J	E
R1658	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	E
R1659	NRSA02J-681X	MG RESISTOR	680Ω 1/10W J	E
R1660	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	E
R1661	NRSA02J-333X	MG RESISTOR	33kΩ 1/10W J	E
VR1601	QVP0039-471Z	TRIM RESISTOR	470Ω,R-Y ADJ	E
VR1602	QVP0039-471Z	TRIM RESISTOR	470Ω,B-Y ADJ	E
VR1603	QVP0039-104Z	TRIM RESISTOR	100kΩ,BURST POSITION	E
L1601	QQL29BJ-100Z	P COIL	10uH J	E
L1602	QQL29BJ-100Z	P COIL	10uH J	E
L1603	QQL29BJ-100Z	P COIL	10uH J	E
L1604	QQL29BJ-100Z	P COIL	10uH J	E
B1601	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	E
B1602	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
B1603	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
B1607	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
B1608	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
CN1601	QGF1208F1-11	CONNECTOR	FFC/FPC (1-11)	E
FL1601	QQR1187-001	EQ		E
FL1602	QQR1187-001	EQ		E
OT1	LP30950-001A	BRACKET(1)		E
OT2	LP30951-001A	BRACKET(2)		E
OT3	QYSDST3006Z	TAP SCREW	3mm x 6mm,BRACKET(2)	E
W1	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
W2	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
X1601	QAX0613-001Z	CRYSTAL		E

⚠ Symbol No.	Part No.	Part Name	Description	Local
C305	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C307	NDC21HJ-151X	C CAPACITOR	150pF 50V J	E
C308	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C309	NCB21EK-104X	C CAPACITOR	0.1uF 25V K	E
C310	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C311	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C312	NCB21HK-102X	C CAPACITOR	1000pF 50V K	E
C313	QEKC1HM-474Z	E CAPACITOR	0.47uF 50V M	E
C315	QEKC1HM-105Z	E CAPACITOR	1uF 50V M	E
C316	NCB21HK-103X	C CAPACITOR	0.01uF 50V K	E
C317	NCB21HK-681X	C CAPACITOR	680pF 50V K	E
C318	NCB21EK-223X	C CAPACITOR	0.022uF 25V K	E
C319	QEKC1HM-105Z	E CAPACITOR	1uF 50V M	E
C320	QDYB1CM-103Y	C CAPACITOR	0.01uF 16V M	E
C321	NDC21HG-301X	C CAPACITOR	300pF 50V G	E
C322	NCB21CK-474X	C CAPACITOR	0.47uF 16V K	E
C323	QEKC0JM-476Z	E CAPACITOR	47uF 6.3V M	E
R301	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	E
R302	NRSA02J-124X	MG RESISTOR	120kΩ 1/10W J	E
R303	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	E
R304	NRSA02J-682X	MG RESISTOR	6.8kΩ 1/10W J	E
R305	NRSA02J-473X	MG RESISTOR	47kΩ 1/10W J	E
R306	NRSA02J-273X	MG RESISTOR	27kΩ 1/10W J	E
R307	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R308	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	E
R309	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
R310	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	E
R311	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	E
R312	NRSA02J-272X	MG RESISTOR	2.7kΩ 1/10W J	E
R313	NRSA02J-223X	MG RESISTOR	22kΩ 1/10W J	E
R314	QRE141J-243Y	C RESISTOR	24kΩ 1/4W J	E
R315	QRE141J-564Y	C RESISTOR	560kΩ 1/4W J	E
R316	QRE141J-124Y	C RESISTOR	120kΩ 1/4W J	E
R329	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
L301	QQL29BJ-100Z	P COIL	10uH J	E
L302	QQL29BJ-6R8Z	P COIL	6.8uH J	E
L303	QQL071J-270Y	COIL	27uH J	E
CN301	QGG2502K1-11	CONNECTOR	(1-11)	E
OT1	LP40425-001A	BRACKET(PWB)		E
W311	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
W312	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
W314	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E
W315	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	E

SECAM BOARD ASSEMBLY <88>

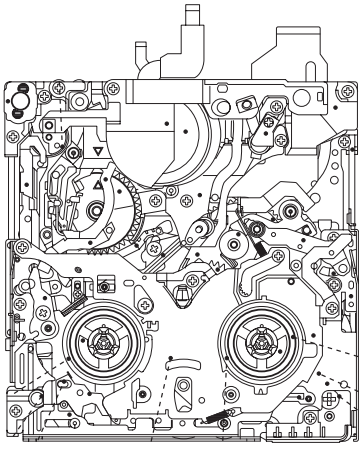
⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10011-04A	SECAM BOARD ASSY		E
IC301	LA7358	IC		E
Q301	2SB1218A/QR/-X	TRANSISTOR		E
Q301 or	2SA1576A/QR/-X	TRANSISTOR		E
Q301 or	2PA1576/R/-X	TRANSISTOR		E
Q302	UN511E-X	DIGI TRANSISTOR		E
Q302 or	DTA144WUA-X	DIGI TRANSISTOR		E
Q302 or	RN2309-X	DIGI TRANSISTOR		E
Q302 or	PDTA144WU-X	DIGI TRANSISTOR		E
C301	NDC21HJ-151X	C CAPACITOR	150pF 50V J	E
C302	QEKC1HM-225Z	E CAPACITOR	2.2uF 50V M	E
C303	NCB21HK-682X	C CAPACITOR	6800pF 50V K	E
C304	NCB21HK-682X	C CAPACITOR	6800pF 50V K	E

JVC

SERVICE MANUAL

MECHANISM ASSEMBLY

DVC MECHANISM
VHS-C MECHANISM
VHS MECHANISM



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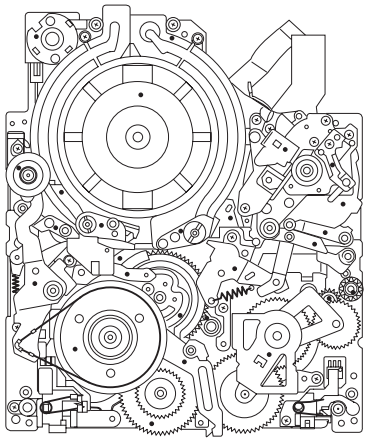

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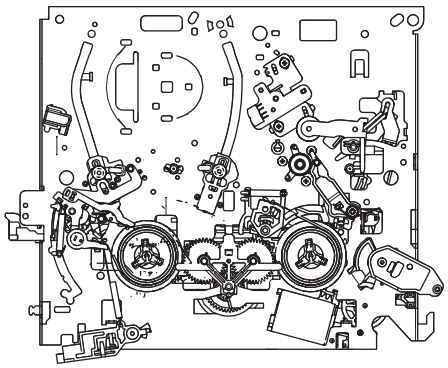

<VHS MECHANISM>

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3 PARTS LIST 3-1

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No.86700
2003/04

SECTION 1
JIGS AND TOOLS

1.1 TOOLS REQUIRED FOR ADJUSTMENTS

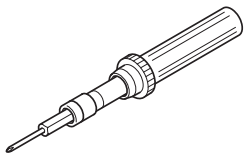
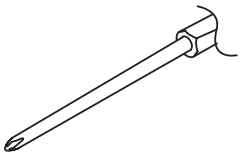
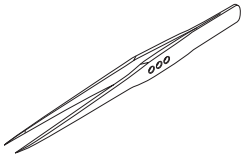
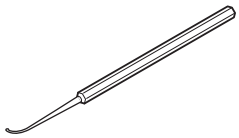
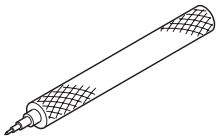
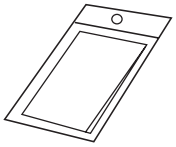
1. Torque driver YTU94088	2. Bit YTU94088-003
	
3. Tweezers P-895	4. Chip IC replacement jig PTS40844-2
	
5. Slit washer installation jig YTU94121A	6. Cleaning cloth KSMM-01
	

Fig.1-1-1

1. Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

2. Bit
This bit is slightly longer than those set in conventional torque drivers.

3. Tweezers
To be used for removing and installing parts and wires.

4. Chip IC replacement jig
To be used for replacement of part.

5. Slit washer installation jig
To be used to install slit washers.

6. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 DVC MECHANISM

2.1.1 Precautions

(1) When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.055 N•m (0.56 kgf•cm).
(2) Be sure to disconnect the set from the power supply before fastening and soldering parts.
(3) When disconnecting/connecting wires, be careful not to get them and their connectors damaged.
(4) When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Notes on procedure for disassembly/assembly

The disassembling procedure table (Fig. 2-1-10 on page 2-4,a part of the table is shown below for reference)shows the procedure to disassemble/reassemble mechanism parts.
Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers(circled numbers)in the following explanation correspond to those appearing under respective columns of the table.

Example

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	CASSETTE HOUSING ASSY	T	Fig.2-4-3	3(S1),(L1a)-(L1e)	**NOTE 1 a,b,c,d**	ADJUSTMENT
[2]	UPPER BASE ASSY	T	Fig.2-4-4	(S2),(L2a),(L2b)	**NOTE 2**	
[3]	DRUM ASSY	T		(S3a),2(S3b)	**NOTE 3 a,b**	
[4]	REEL DISK ASSY(SUP)	T	Fig.2-4-5	(W4)	**NOTE 4 a**	
[5]	REEL DISK ASSY(TU)	T		(W5a),(W5b),(W5c)	**NOTE 5 a,b**	
[6]	REEL COVER ASSY	T		(W6),(S6a),2(S6b)	**NOTE 6**	ADJUSTMENT

*1 *2 *3 *4 *5 *6 *7

*1 Numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.
*2 This column shows part names corresponding to numbers in the left column.
*3 The symbol (T or B)appearing in this column shows the side which the objective part is mounted on.
T =the upper side, B =the lower side
*4 Symbols appearing in this column indicate drawing numbers.
*5 This column indicates parts and points such as screws, washers,springs,and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.

P = Spring
W = Washer
S = Screw
* = Lock (L),soldering (SD),shield,connector (CN),etc.

Example

- Remove (W1)=Washer W1.
- Remove the solder at (SD1)=Point SD1.
- Disconnect A = Connector A.

*6 Numbers in this column represent the numbers of notes in the text.
(For parts that need phase adjustment after reassembling, refer to “MECHANISM ADJUSTMENTS”.)
*7 This column indicates required after-disassembling/-reassembling work such as phase adjustment or mechanism adjustment.

2.1.3 DISASSEMBLY AND ASSEMBLY OF MECHANISM ASSEMBLY

2.1.3.1 General statement

The mechanism should generally be disassembled/assembled in the C.IN mode (ASSEMBLY mode). (Refer to Fig. 2-1-1,2-1-2.) However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, after the mechanism is removed from the main body, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the C IN mode compulsory.

<Mechanism assembly/Cassette housing assembly>

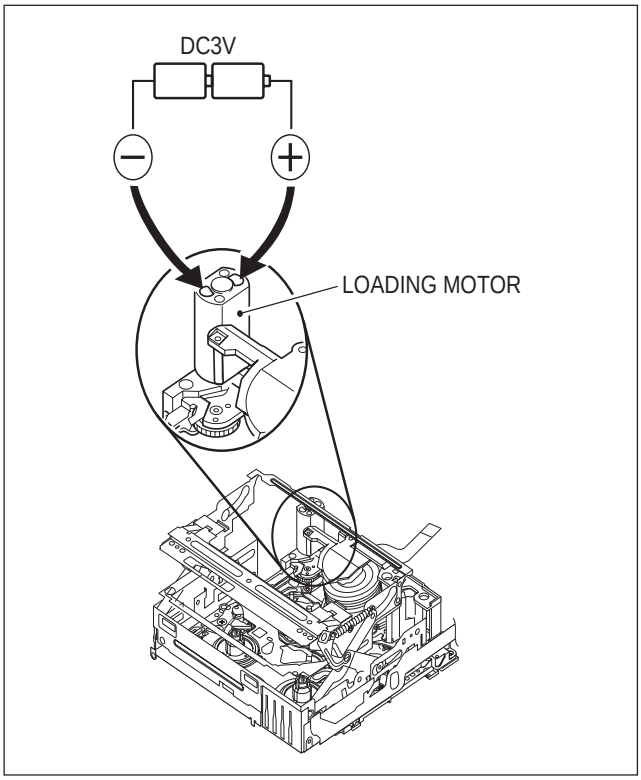


Fig.2-1-1

<Back side of the mechanism assembly>

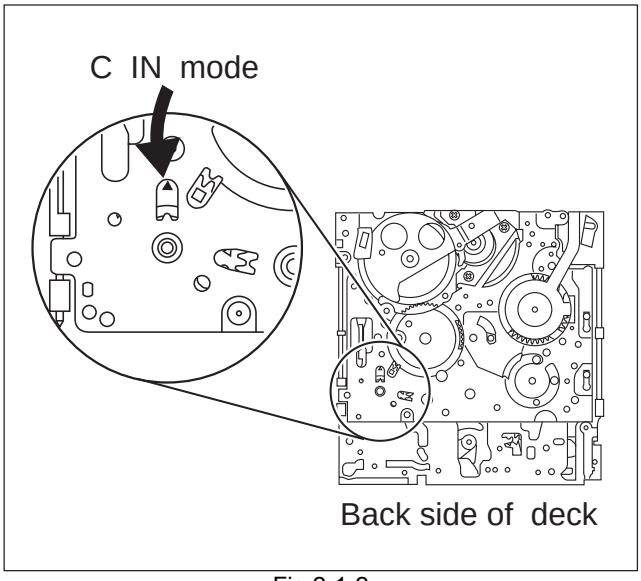


Fig.2-1-2

2.1.3.2 Explanation of mechanism mode

The mechanism mode of this model is classified into five modes as shown in Fig. 2-1-9. Each mechanism mode can be distinguished from others by the relative position of "△", "○", "⬭", "□" marks on the sub cam gear to the inner or outer protrusion on the main deck.

Refer to Fig. 2-1-3 to 2-1-8 below.

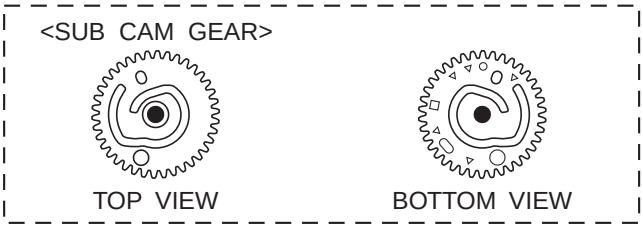


Fig.2-1-3

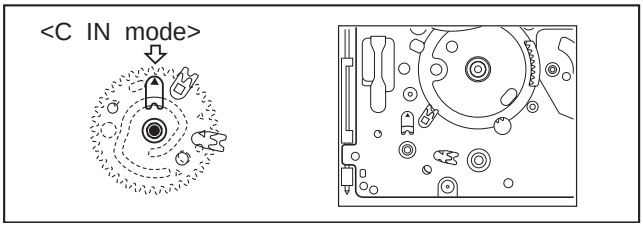


Fig.2-1-4

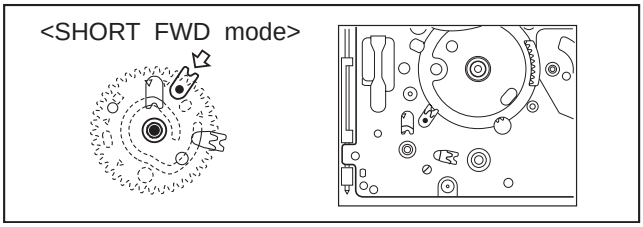


Fig.2-1-5

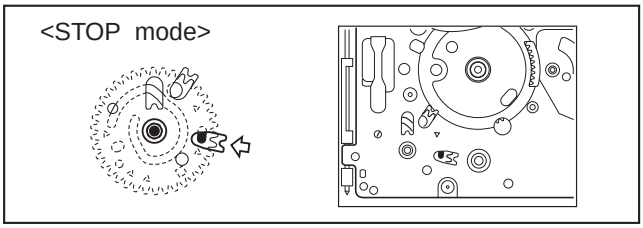


Fig.2-1-6

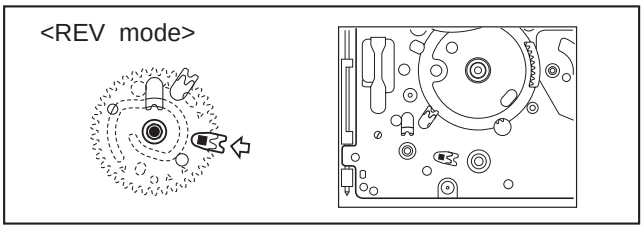


Fig.2-1-7

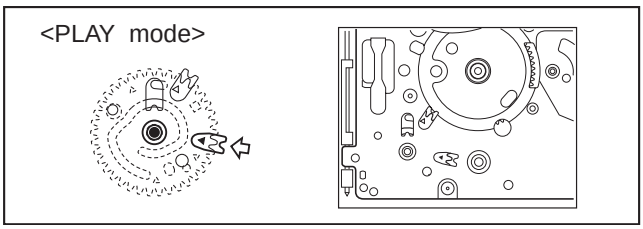


Fig.2-1-8

2.1.3.3 Mechanism timing chart

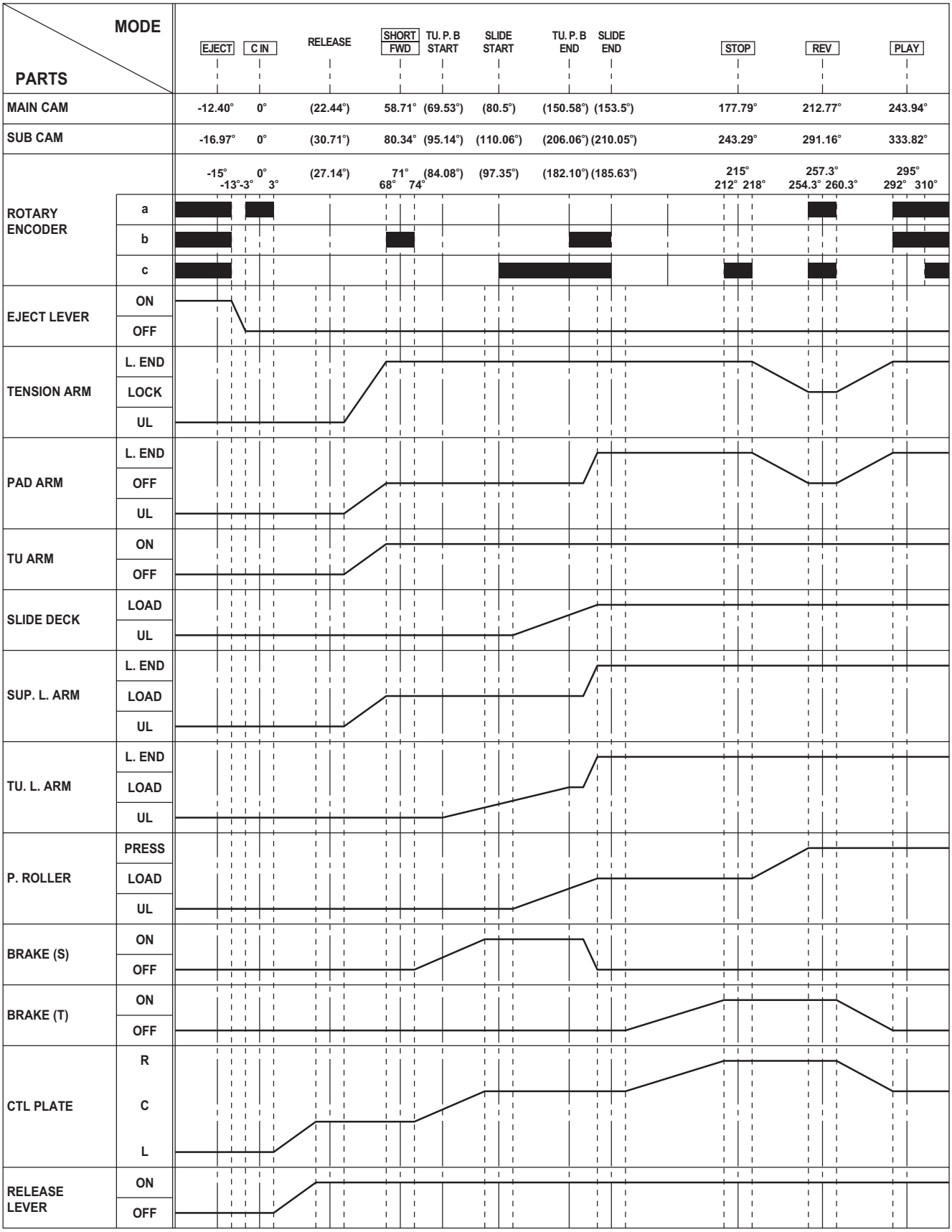


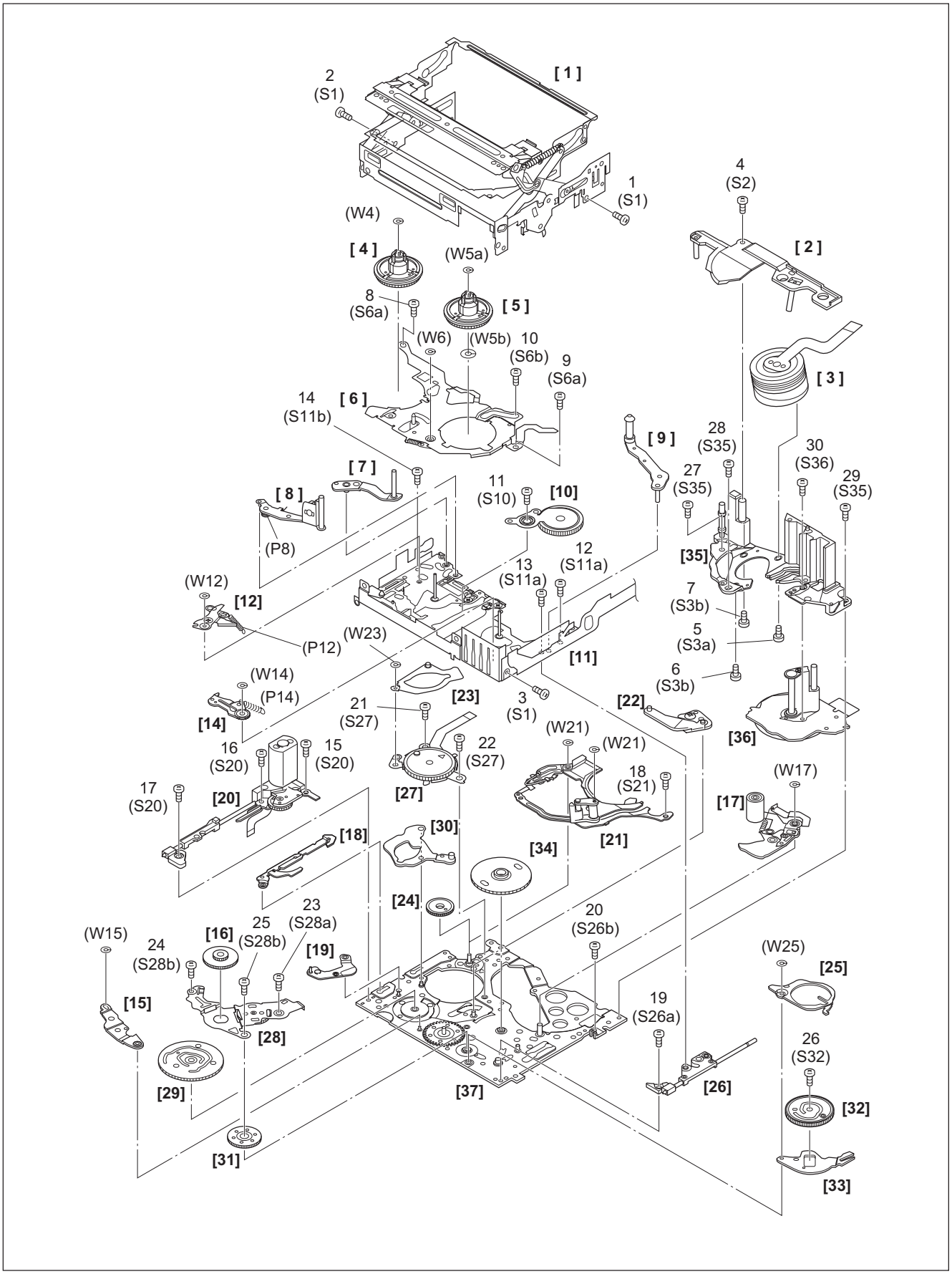
Fig.2-1-9

2.1.4 DISASSEMBLY PROCEDURE TABLE

MARK: # After assembly, perform adjustments.

NO.	PART NAME		FIG.	POINT	NOTE	REMARKS
[1]	CASSETTE HOUSING ASSY	T	Fig.2-1-14	3(S1),(L1a)-(L1e)	**NOTE 1 a,b,c,d**	ADJUSTMENT
[2]	UPPER BASE ASSY	T	Fig.2-1-15	(S2),(L2a),(L2b)	**NOTE 2**	
[3]	DRUM ASSY	T		(S3a),2(S3b)	**NOTE 3 a,b**	ADJUSTMENT
[4]	REEL DISK ASSY(SUP)	T	Fig.2-1-16	(W4)	**NOTE 4**	
[5]	REEL DISK ASSY(TU)	T		(W5a),(W5b)	**NOTE 5 a,b**	
[6]	REEL COVER ASSY	T		(W6),2(S6a),(S6b)	**NOTE 6**	
[7]	TENSION ARM ASSY	T	Fig.2-1-17	(L7)	**NOTE 7**	ADJUSTMENT / #
[8]	SLANT POLE ARM ASSY	T		(P8)	**NOTE 8**	ADJUSTMENT
[9]	TU ARM ASSY	T		(L9)	**NOTE 9**	ADJUSTMENT
[10]	SWING ARM ASSY	T		(S10)	**NOTE 10**	ADJUSTMENT
[11]	SLIDE DECK ASSY	T	Fig.2-1-18	2(S11a),(S11b),2(L11a), 2(L11b),(L11c)	**NOTE 11a,b**	ADJUSTMENT / #
[12]	PAD ARM ASSY	T	Fig.2-1-19	(P12),(L12),(W12)	**NOTE 12**	ADJUSTMENT / #
[13]	-	-		-	-	
[14]	TU BRAKE ASSY	T		(P14),(L14),(W14)	**NOTE 14**	ADJUSTMENT
[15]	TENSION CTL LEVER ASSY	T	Fig.2-1-20	(W15)	**NOTE 15**	ADJUSTMENT
[16]	CENTER GEAR	T		-	**NOTE 16**	
[17]	PINCH ROLLER ARM F. ASSY	T		(W17)	**NOTE 17**	ADJUSTMENT
[18]	TENSION CTL PLATE ASSY	T		-	**NOTE 18**	ADJUSTMENT
[19]	BRAKE CTL LEVER ASSY	T		-	**NOTE 19**	ADJUSTMENT
[20]	MOTOR BRACKET ASSY	T	Fig.2-1-21	3(S20),(L20a),2(L20b)	**NOTE 20**	ADJUSTMENT
[21]	GUIDE RAIL ASSY	T		2(W21),(S21),2(L21a),(L21b)	**NOTE 21**	ADJUSTMENT
[22]	SLIDE LEVER 2 ASSY	T		-	**NOTE 22**	ADJUSTMENT / #
[23]	LOADING PLATE ASSY	T		(W23)	**NOTE 23**	ADJUSTMENT
[24]	MODE GEAR	T		-	**NOTE 24**	
[25]	EJECT LEVER	T		(W25)	**NOTE 25**	ADJUSTMENT
[26]	BASE R ASSY	T	Fig.2-1-22	(S26a),(S26b),2(L26)	**NOTE 26**	ADJUSTMENT
[27]	ROTARY ENCODER	T		2(S27)	**NOTE 27**	PHASE ADJUSTMENT
[28]	GEAR COVER ASSY	T		(S28a),2(S28b)	-	
[29]	MAIN CAM ASSY	T		-	**NOTE 29**	PHASE ADJUSTMENT
[30]	SLIDE ARM ASSY	T	Fig.2-1-23	-	**NOTE 30**	ADJUSTMENT
[31]	CONNECT GEAR 2	T		-	**NOTE 31**	
[32]	SUB CAM ASSY	T		(S32)	**NOTE 32**	PHASE ADJUSTMENT
[33]	CONTROL ARM ASSY	T		-	**NOTE 33**	ADJUSTMENT
[34]	REEL GEAR 1	T		-	**NOTE 34**	
[35] / [36]	DRUM BASE ASSY/ CAPSTAN MOTOR	T	Fig.2-1-24	3(S35)	**NOTE 35a,b**	ADJUSTMENT
[36]	CAPSTAN MOTOR	T		(S36)	**NOTE 36**	ADJUSTMENT
[37]	MAIN DECK ASSY	T		-	-	

Fig.2-1-10


2
(S1)
[1]
1
(S1)
4
(S2)
(W4)
[4]
(W5a)
[2]
8
(S6a)
[5]
(W6)
(W5b)
10
(S6b)
9
(S6a)
[3]
14
(S11b)
[6]
[9]
28
(S35)
30
(S36)
[7]
27
(S35)
29
(S35)
[8]
11
(S10)
[10]
(P8)
12
(S11a)
[35]
(W12)
13
(S11a)
7
(S3b)
[12]
5
(S3a)
(P12)
(W23)
[11]
6
(S3b)
(W14)
[23]
3
(S1)
[22]
(P14)
21
(S27)
[14]
(W21)
[36]
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(S20)
15
(S20)
22
(S27)
(W21)
(W17)
17
(S20)
[20]
[27]
18
(S21)
[17]
[18]
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[34]
[21]
[24]
20
(S26b)
(W15)
23
(S28a)
25
(S28b)
[16]
(W25)
24
(S28b)
[19]
[25]
[15]
19
(S26a)
[28]
26
(S32)
[29]
[37]
[26]
[32]
[31]
[33]

Fig.2-1-11

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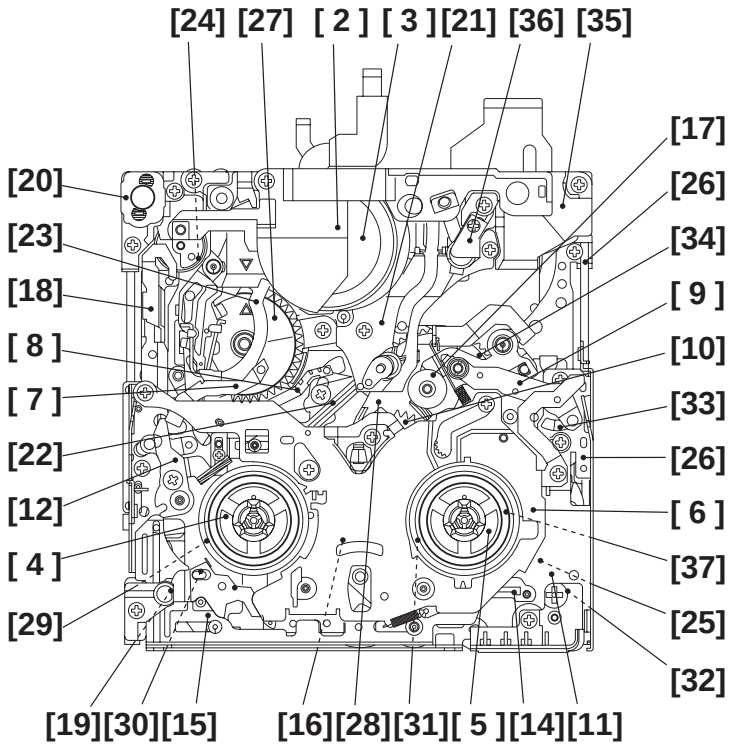

Fig.2-1-12

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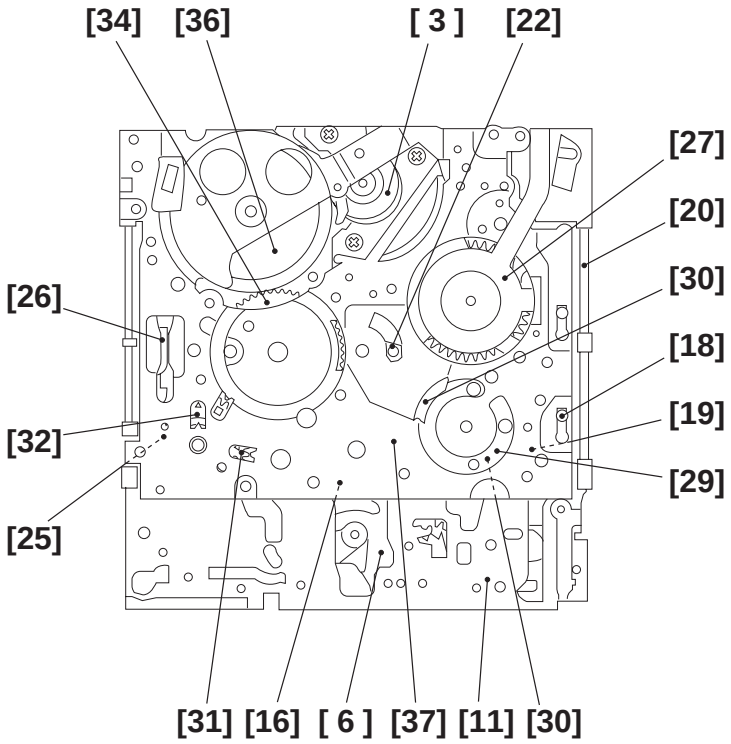


Fig.2-1-13

2.1.5 DISASSEMBLY/ASSEMBLY

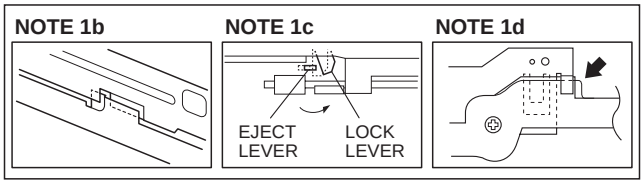
2.1.5.1 [1] CASSETTE HOUSING ASSY

NOTE 1a:
Be careful not to damage any of the parts during work.

NOTE 1b:
Special care is required in mounting.

NOTE 1c:
When mounting, the CASSETTE HOUSING ASSY should be attached in the Eject status. Pay heed to the positions of the LOCK LEVER and EJECT LEVER during mounting.

NOTE 1d:
When mounting, be sure to locate the FPC in the gap.



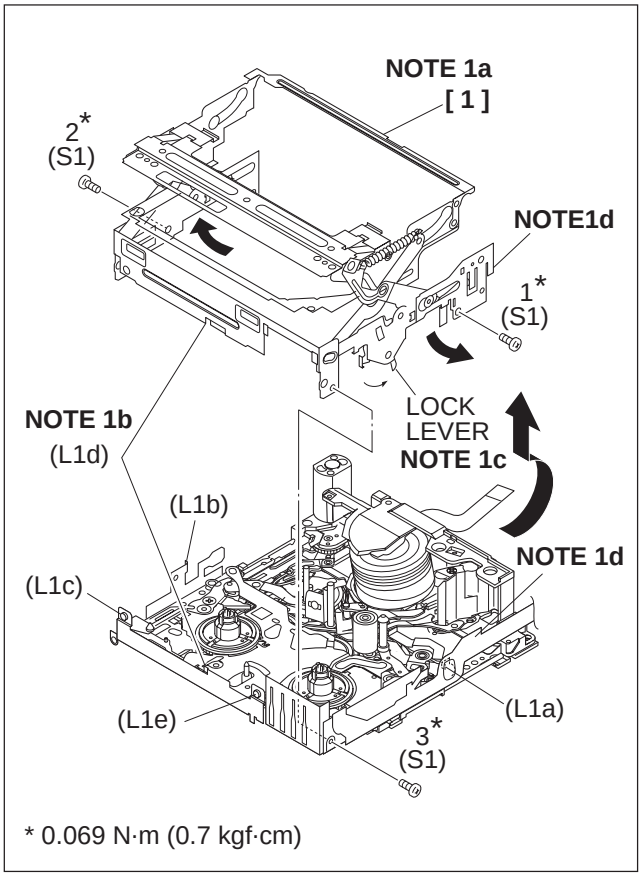


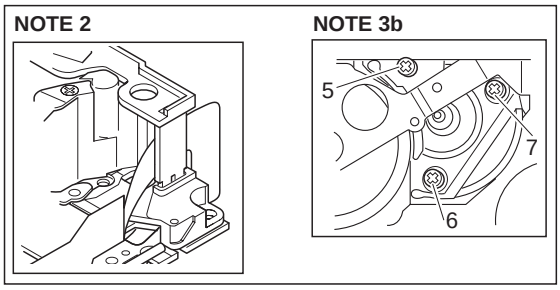
Fig.2-1-14

2.1.5.2 [2] UPPER BASE ASSY
[3] DRUM ASSY

NOTE 2:
When mounting, be sure to insert the FPC reinforcing sheet.

NOTE 3a:
Be mindful of scratches or damage during work.

NOTE 3b:
Be careful not to attach screws incorrectly.



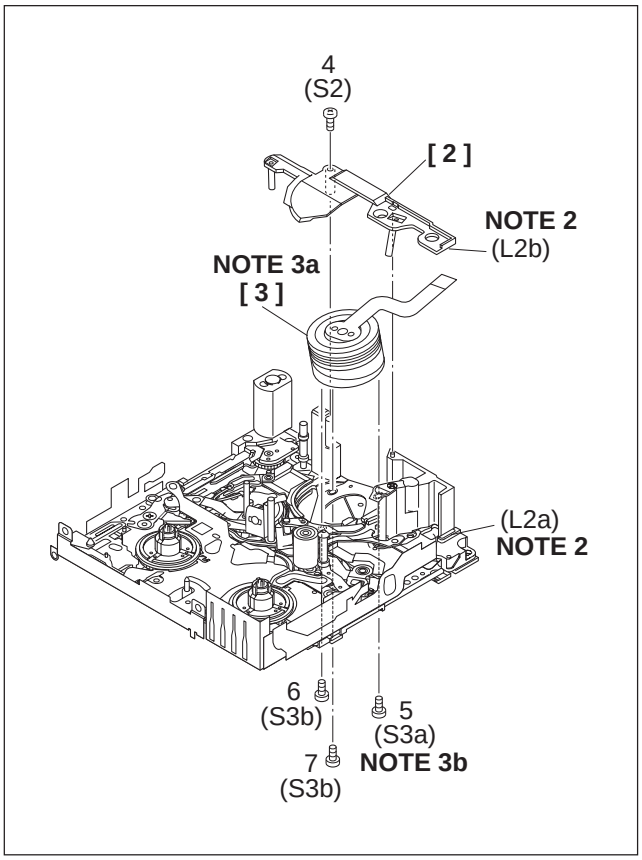


Fig.2-1-15

2.1.5.3 [4] REEL DISK ASSY(SUP)
[5] REEL DISK ASSY(TU)
[6] REEL COVER ASSY

NOTE 4:

Be careful not to attach the REEL DISK wrongly. The Supply side can be identified by the white color at the center.

NOTE 5a:

Be careful not to attach the REEL DISK wrongly. The Take-up side can be identified by the black color at the center.

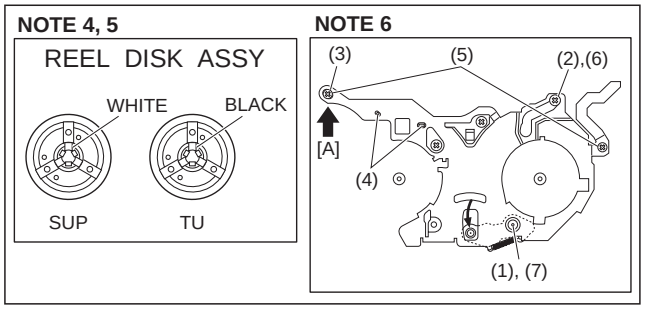
NOTE 5b

The washer is inserted under the REEL DISK.
Be carefull not to lose the washer.
Two washers are inserted under the REEL DISK in some products manufactured earlier, but one washer is inserted in the products manufactured recently and in the future.
See the parts list, and use the parts written in the parts list.

NOTE 6:

Perform the following steps for mounting.

(1) Align the hole with the pin.
(2) Attach the **[17]** PINCH ROLLER ARM FINAL ASSY by aligning the positions.
(3) Attach the SLIDE DECK ASSY (POINT[A]) by aligning the positions.
(4) Check that the parts below them are located in the correct positions.
(5) Tighten the 2 screws.
(6) Tighten the screw.
(7) Attach the 1 SLIT WASHER parts.



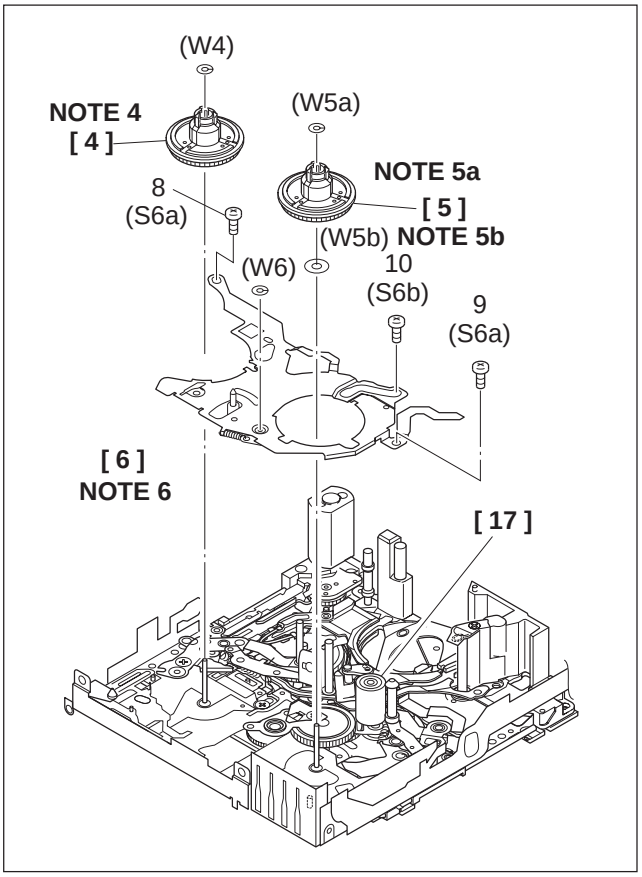


Fig.2-1-16

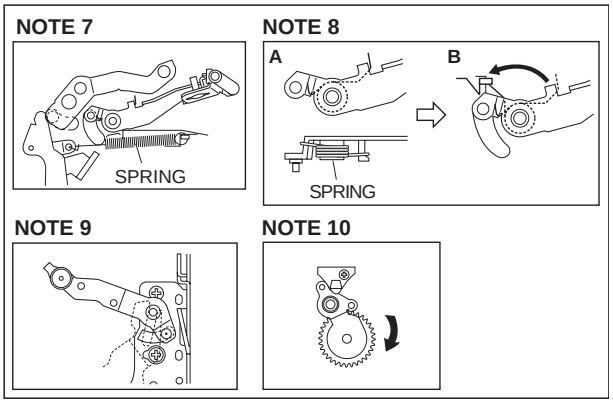
2.1.5.4 [7] TENSION ARM ASSY
[8] SLANT POLE ARM ASSY
[9] TU ARM ASSY
[10] SWING ARM ASSY

NOTE 7:
When detaching, remove the spring of the **[12]** PAD ARM ASSY in advance.
Pay attention to the attachment position.

NOTE 8:
When mounting the SLANT POLE ARM ASSY, hook the spring onto the lug as in diagram A, and fit the combination onto the SLIDE DECK ASSY. After fitting, hook the spring onto the lug of the SLIDE DECK ASSY as in diagram B.
Be careful not to lose the spring.

NOTE 9:
Pay attention to the attachment position.

NOTE 10:
When detaching, remove the screw then remove the SWING ARM ASSY by pulling it up and turning it.



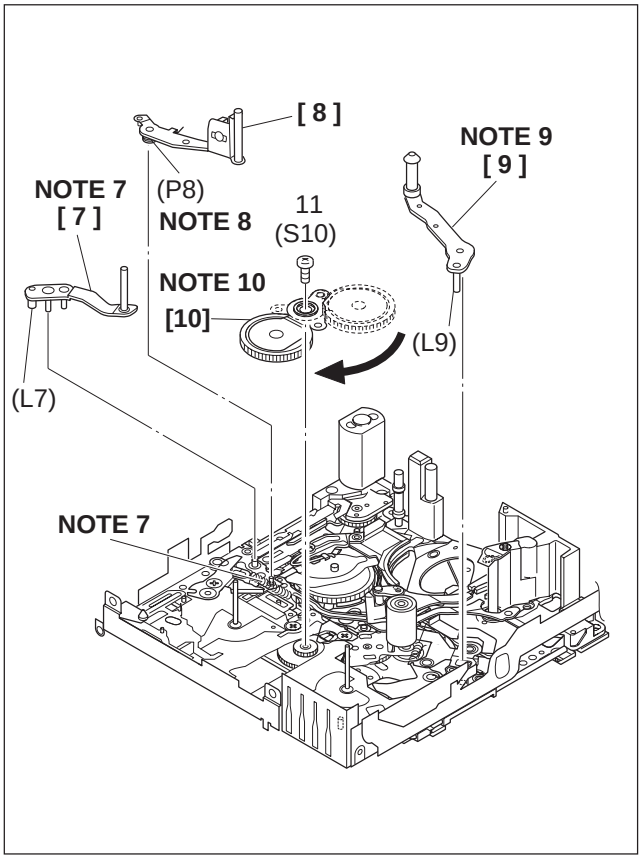


Fig.2-1-17

2.1.5.5 [11] SLIDE DECK ASSY

NOTE 11a:

Each of the parts on the SLIDE DECK ASSY can be replaced separately.

When detaching the assembly, if there is no need to replace any of its parts, remove the SLIDE DECK ASSY as it is.

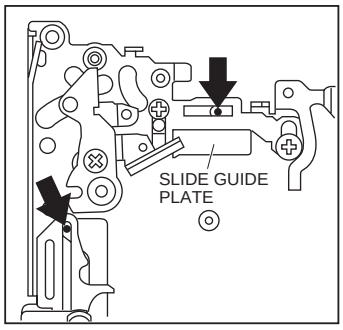
NOTE 11b:

When mounting, pay attention to the positions of the **[22]** SLIDE LEVER 2 ASSY studs and the **[19]** BRAKE CTL LEVER ASSY.

When mounting, position the CONTROL PLATE on the left side.

Pay attention to the position of the SLIDE GUIDE PLATE during mounting.

NOTE 11b



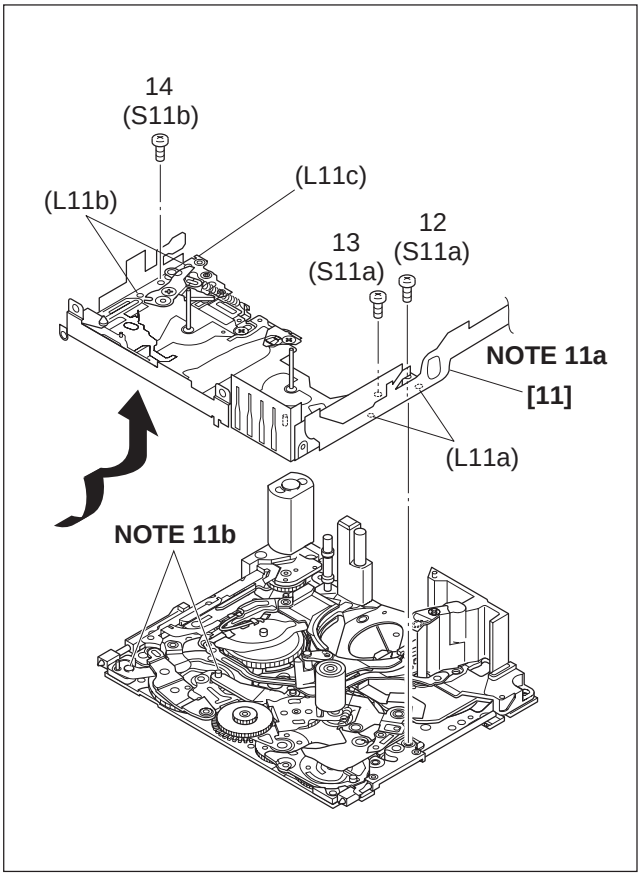


Fig.2-1-18

2.1.5.6 [12] PAD ARM ASSY
[13] -
[14] TU BRAKE ASSY

NOTE 12:

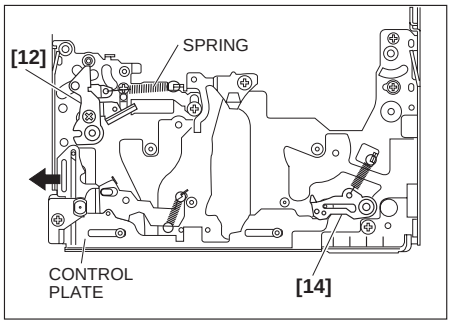
The spring may have already been disengaged when the **[8]** SLANT POLE ARM ASSY was removed.

NOTES 14:

When mounting, pay attention to the correct positioning.

Mount the CONTROL PLATE by moving it fully toward the left side.

NOTE 12,14



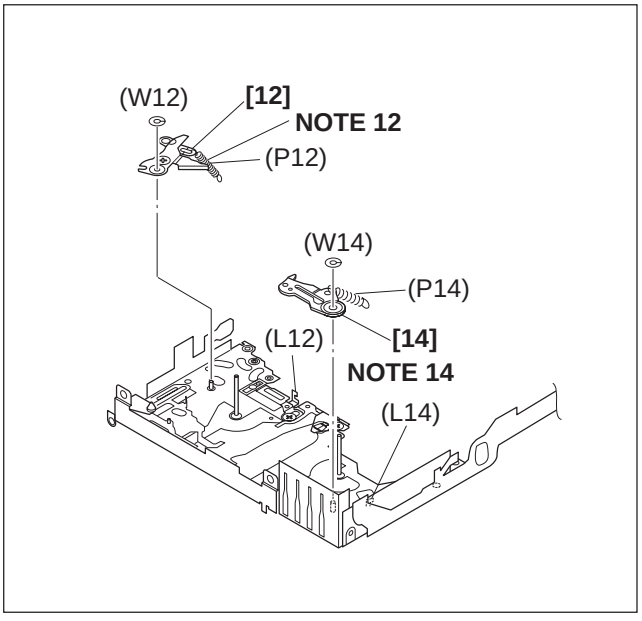


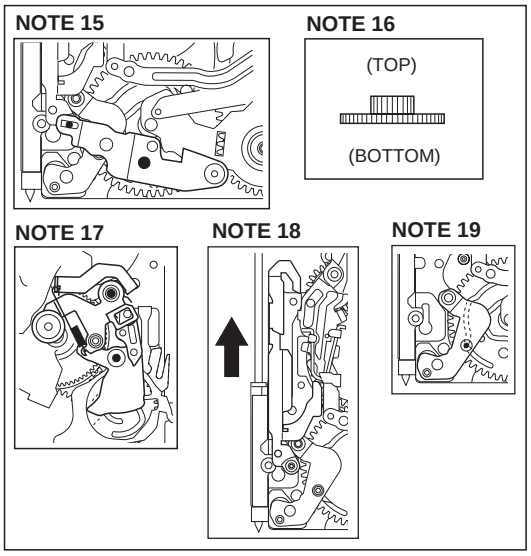
Fig.2-1-19

2.1.5.7 [15] TENSION CTL LEVER ASSY
[16] CENTER GEAR
[17] PINCH ROLLER ARM FINAL ASSY
[18] TENSION CTL PLATE ASSY
[19] BRAKE CTL LEVER ASSY

NOTES 15/16:
When mounting, pay attention to the correct positioning.

NOTE 17:
Take care against grease attachment during work.

NOTES 18/19:
When mounting, pay attention to the correct positioning.



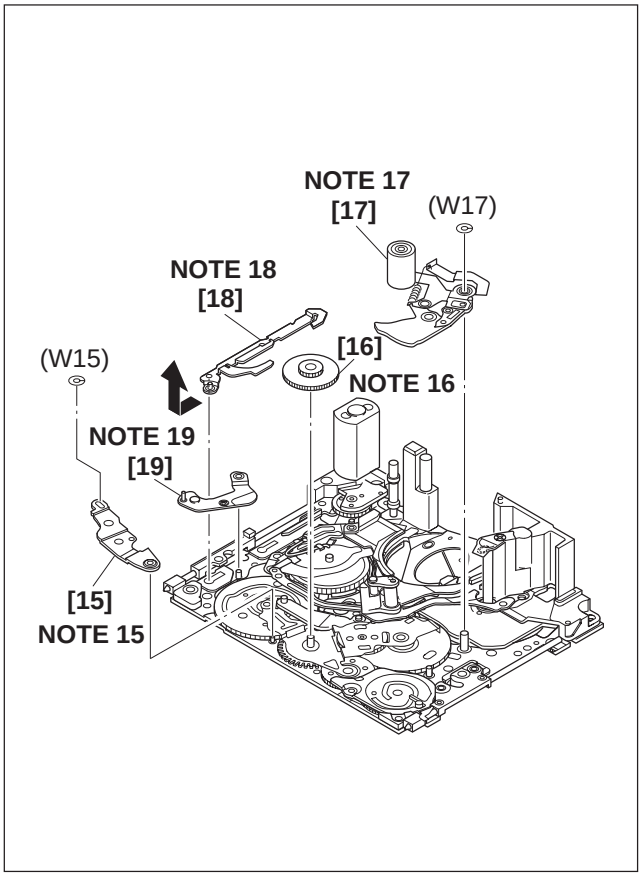


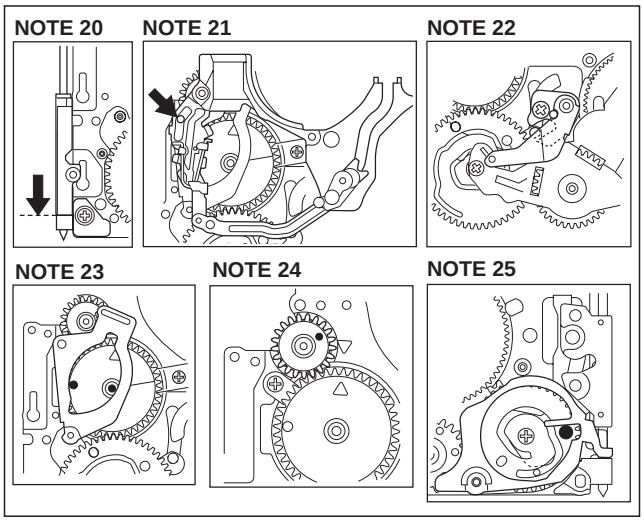
Fig.2-1-20

2.1.5.8 [20] MOTOR BRACKET ASSY
[21] GUIDE RAIL ASSY
[22] SLIDE LEVER 2 ASSY
[23] LOADING PLATE ASSY
[24] MODE GEAR
[25] EJECT LEVER

NOTE 20:
When mounting, pay attention to the positioning of the sliding parts.

NOTE 21:
When mounting, take care that no part is allowed to float or rattle.

NOTES 22/23/24/25:
When mounting, pay attention to the correct positioning.



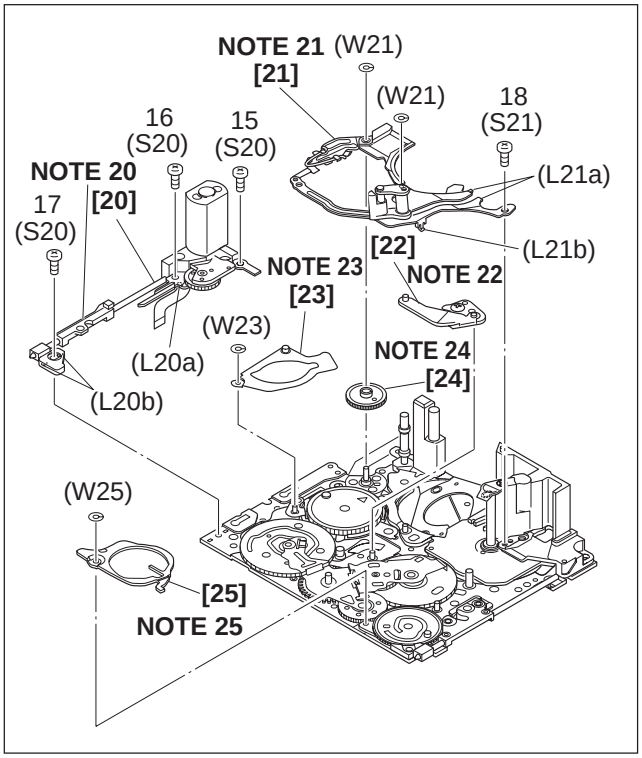


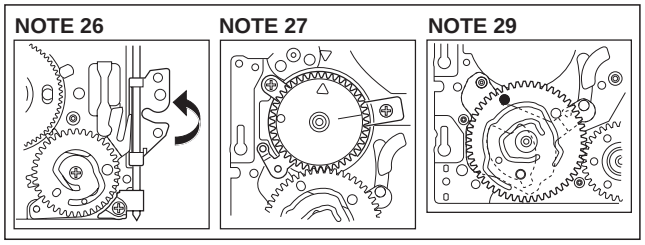
Fig.2-1-21

2.1.5.9 [26] BASE R ASSY
[27] ROTARY ENCODER
[28] GEAR COVER ASSY
[29] MAIN CAM ASSY

NOTE 26:
When mounting, fold the sliding part to the inner side.

NOTE 27:
When mounting, pay attention to the correct positioning and the FPC layout.

NOTE 29:
When mounting, pay attention to the correct positioning.



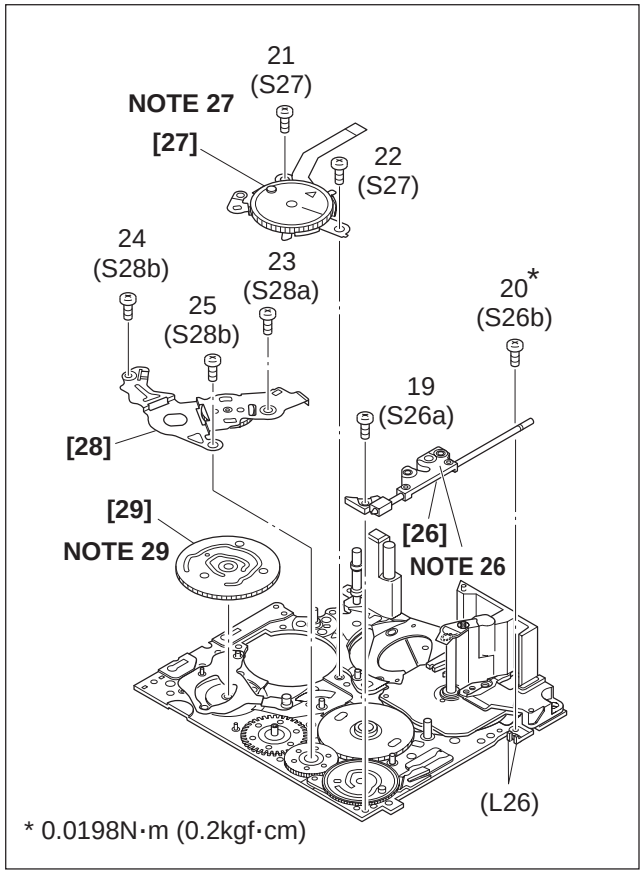


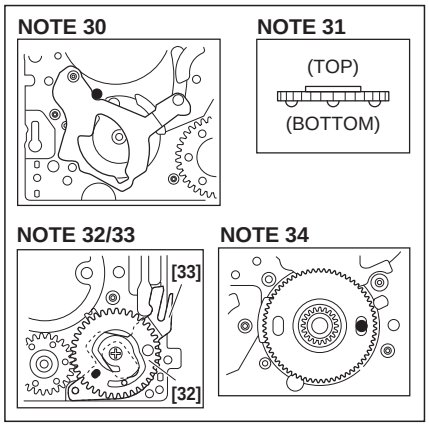
Fig.2-1-22

2.1.5.10 [30] SLIDE ARM ASSY
[31] CONNECT GEAR 2
[32] SUB CAM ASSY
[33] CONTROL ARM ASSY
[34] REEL GEAR 1

NOTE 30:
When mounting, pay attention to the correct positioning.

NOTE 31:
When mounting, pay attention to the position of the front and back.

NOTES 32/33/34:
When mounting, pay attention to the correct positioning.



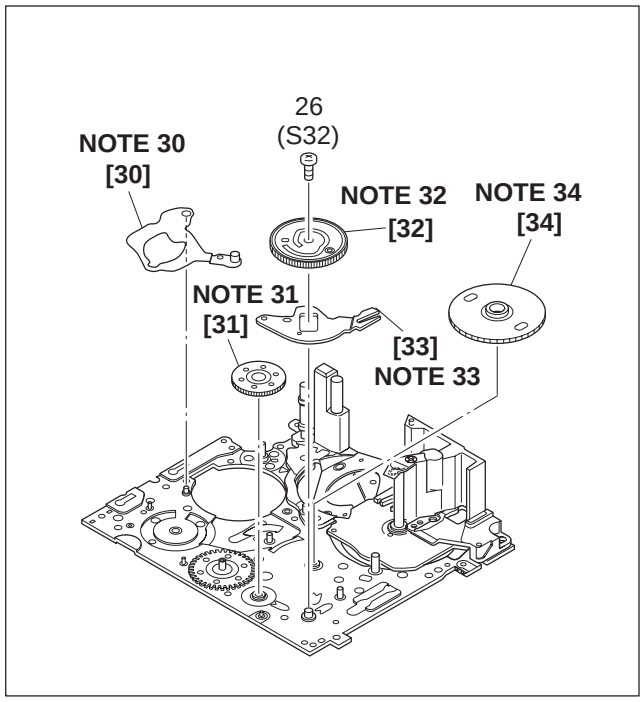


Fig.2-1-23

2.1.5.11 [35] DRUM BASE ASSY
[36] CAPSTAN MOTOR
[37] MAIN DECK ASSY

NOTES 35a/36:

Since [36]CAPSTAN MOTOR is attached to [35]DRUM BASE ASSY, remove [36]CAPSTAN MOTOR together with [35]DRUM BASE ASSY when removing [36]CAPSTAN MOTOR.

[36]CAPSTAN MOTOR should not be separated from [35]DRUM BASE ASSY except when replacing them.

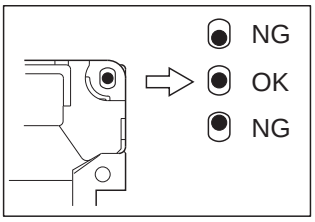
NOTE 35b:

It is very important to attach [35]DRUM BASE ASSY to the proper position.

Especially, improper engagement of [36]CAPSTAN MOTOR with [34]REEL GEAR 1 causes operational defection or abnormal sound. Therefore, confirm the attachment position before disassembly procedure.

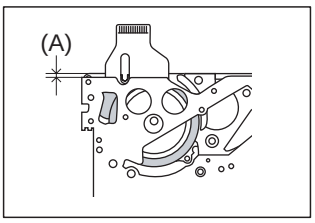
See the following figure as for the proper attachment position.

NOTE 35b



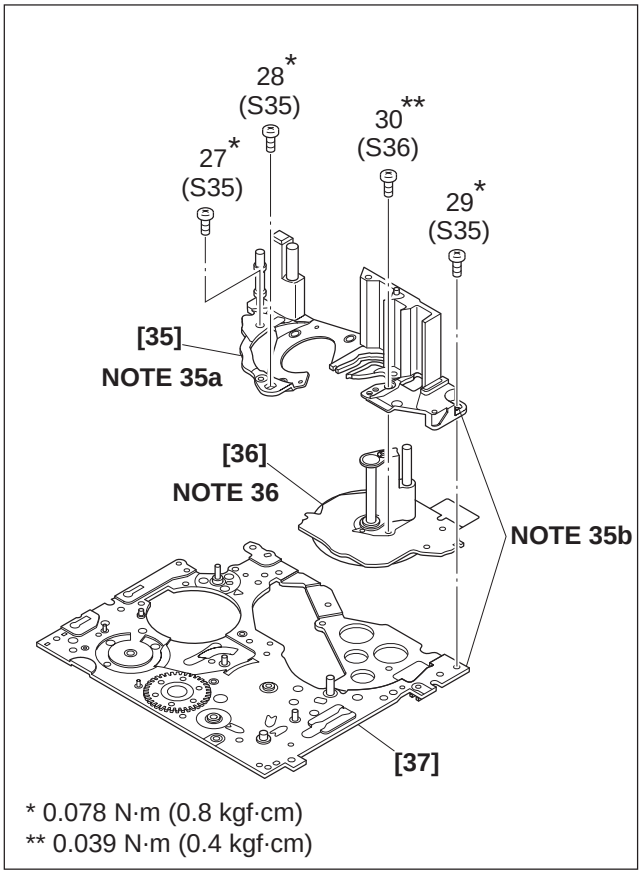
When [35]DRUM BASE ASSY is properly attached, the screw hole tends to be located at the center of the oval.

When the screw hole is located far from the center of the oval, operational defection or abnormal sound may occur.



Before removing [35]DRUM BASE ASSY, confirm the position of [35]DRUM BASE ASSY by seeing the length (A), as shown in the left figure.

When reattaching [35]DRUM BASE ASSY, confirm the position to reattach [35]DRUM BASE ASSY by seeing the length (A). Be sure to reattach [35]DRUM BASE ASSY to the same position as it has been before the removing procedure.



* 0.078 N·m (0.8 kgf·cm)
** 0.039 N·m (0.4 kgf·cm)

Fig.2-1-24

2.1.6 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

[24]MODE GEAR

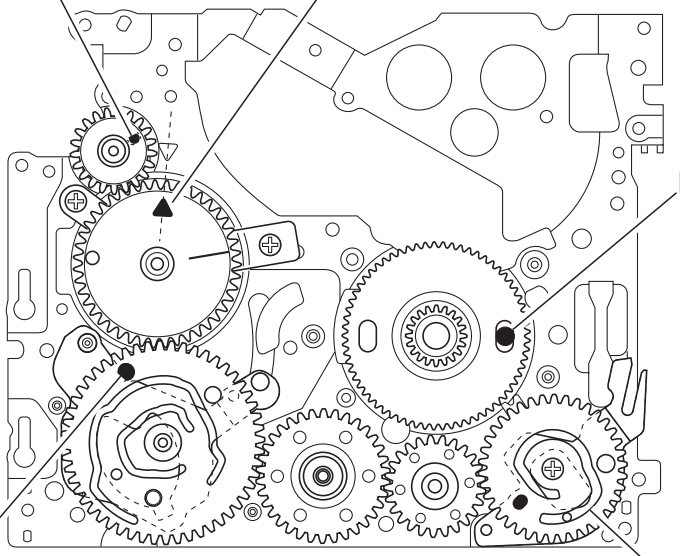
Align the MODE GEAR with the Main Deck Assembly hole.

Note:
The MODE GEAR may be displaced during the mechanism operation, however it can be checked from the rear and realigned during manual assembly.

[27]ROTARY ENCODER

Mount the ROTARY ENCODER by aligning its mark (△) and the mark (▽) of the Main Deck Assembly.

Note:
Be careful when handling the FPC during mounting.



[34]REEL GEAR 1

Align the REEL GEAR 1 with the Main Deck Assembly hole.

Note:
The REEL GEAR 1 may be displaced during mechanism operation, however this can be checked from the rear and realigned during manual assembly.

[29]MAIN CAM ASSY/[30]SLIDE ARM ASSY

When mounting the SLIDE ARM ASSY align it with the Main Deck Assembly and MAIN CAM ASSY holes.

Note:
During the mounting procedure, make sure that the[32] SUB CAM ASSY is in the correct mounting position.

[32]SUB CAM ASSY/[33] CONTROL ARM ASSY

Mount the SUB CAM ASSY hole to align with the CONTROL ARM ASSY and Main Deck Assembly holes and then tighten them all together with a screw.

Note:
When mounting it, make sure that the[29]MAIN CAM ASSY is in the correct mounting position.

Fig.2-1-25

2.1.7 MECHANISM ADJUSTMENTS

2.1.7.1 Adjustment of the slide guide plate

Use Fig. 2-1-26 as the reference unless otherwise specified.

(1) Set the PLAY mode. See Fig. 2-1-8.
(2) Loosen the screws (**A**, **B**).
(3) With the Main Deck and Slide Deck Assemblies pushed into the unit, tighten the screws (**A**, **B**) while applying pressure to the stud (shaft) on the Slide Guide plate.
The pressure applied should be enough to enable utilization of the rebounding force of the springs.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
(4) Check the operation.
Repeat unloading and loading several times and make sure that these operations can be performed smoothly without producing rattles.

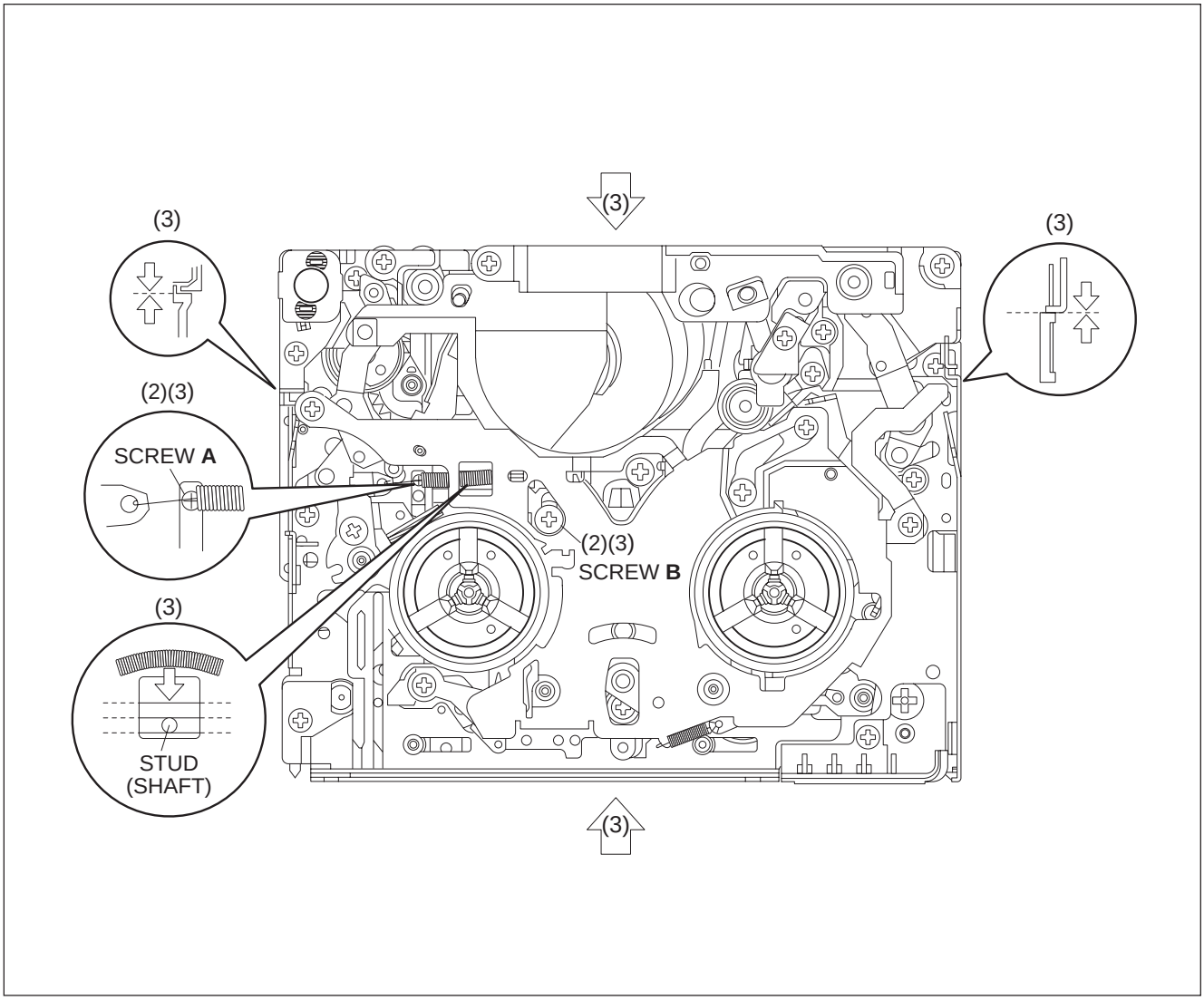


Fig.2-1-26

2.1.7.2 Adjustment of the Tension Arm and Pad Arm Assemblies

Use Fig. 2-1-27 as the reference unless otherwise specified.

(1) Set the PLAY mode.
See Fig. 2-1-8.
(2) Loosen the screw **A**.
(3) With the take-up side at the bottom, align the extreme end of the Tension Arm Assembly with the crossed grooves on the screw **B** that retains the Loading Motor Assembly and then tighten the screw **A**.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
(4) Check the operation.
Repeat unloading and loading several times and make sure that the Tension Arm Assembly is located within the normal range.

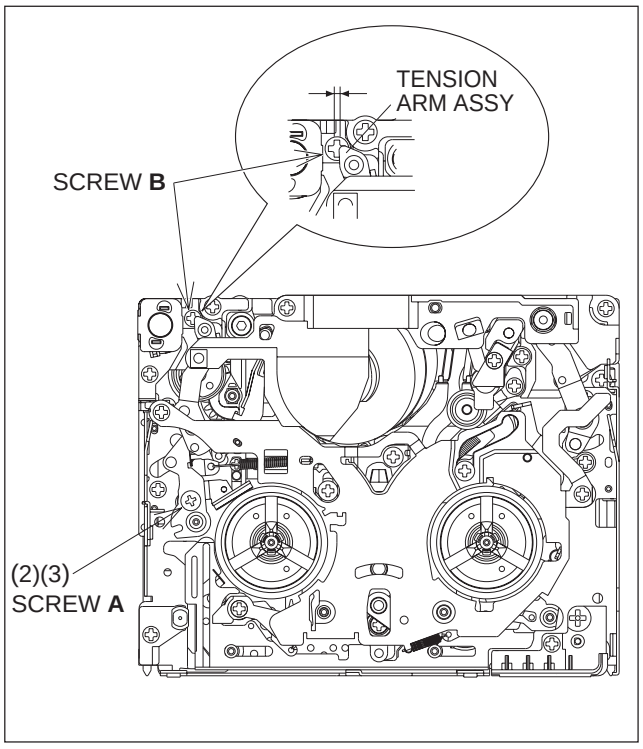


Fig.2-1-27

2.1.7.3 Adjustment of the Slide Lever 2

Use Fig. 2-1-28 as the reference unless otherwise specified.

(1) Set the C IN mode.
See Fig. 2-1-4.
(2) Loosen the screw **A**.
(3) Set the Main Deck and Slide Deck Assemblies apart so that they do not rattle, then tighten the screw **A** by screwing it fully toward the Drum Assembly.
The tightening torque should be 0.069 N•m (0.7 kgf•cm).
(4) Check the operation.
Repeat unloading and loading several times and make sure that these operations can be performed smoothly without producing rattles.

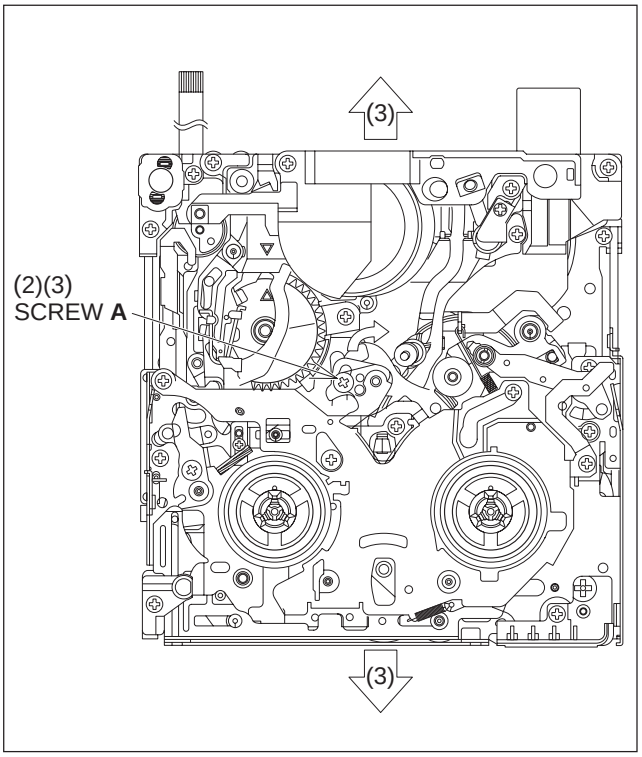


Fig.2-1-28

2.1.8 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

Fig.2-1-14

[1] CASSETTE HOUSING ASSY

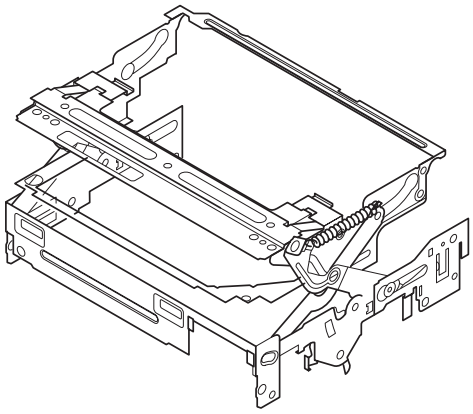


Fig.2-1-15

[2] UPPER BASE ASSY

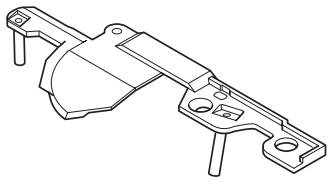


Fig.2-1-15

[3] DRUM ASSY

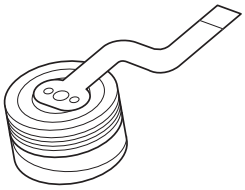
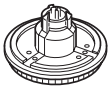
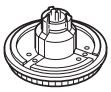


Fig.2-1-16

[4] REEL DISK ASSY(SUP)



[5] REEL DISK ASSY(TU)



[6] REEL COVER ASSY

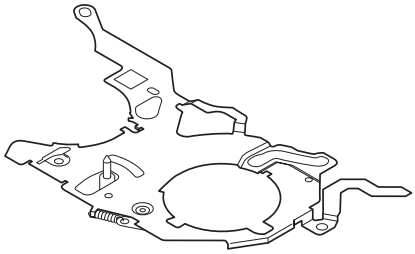
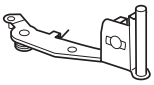


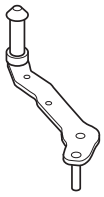
Fig.2-1-17

[7] TENSION ARM ASSY

[8] SLANT POLE ARM ASSY



[9] TU ARM ASSY



[10] SWING ARM ASSY

Fig.2-1-18

[11] SLIDE DECK ASSY

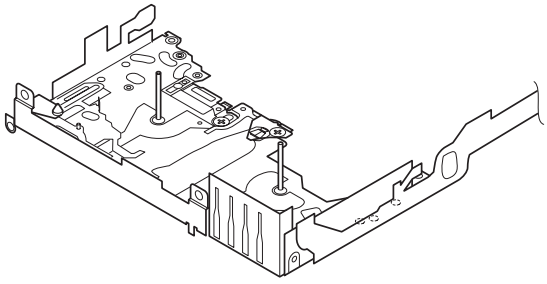


Fig.2-1-19

[12] PAD ARM ASSY

[13]

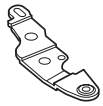
—

[14] TU BRAKE ASSY

Fig.2-1-29

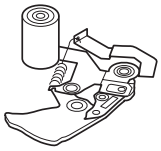
Fig.2-1-20

[15] TENSION CTL LEVER ASSY

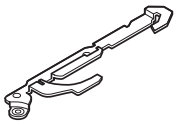


[16] CENTER GEAR

[17] PINCH ROLLER ARM F. ASSY



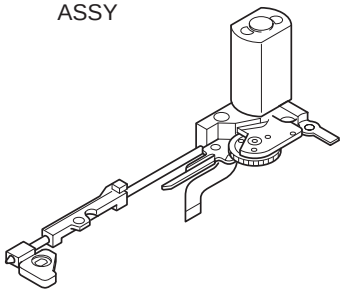
[18] TENSION CTL PLATE ASSY



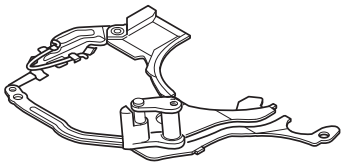
[19] BRAKE CTL LEVER ASSY

Fig.2-1-21

[20] MOTOR BRACKET ASSY



[21] GUIDE RAIL ASSY



[22] SLIDE LEVER 2 ASSY

[23] LOADING PLATE ASSY

[24] MODE GEAR

[25] EJECT LEVER

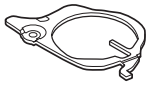
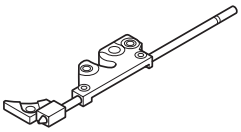
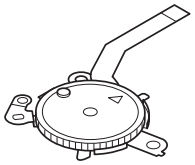


Fig.2-1-22

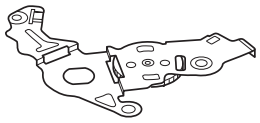
[26] BASE R ASSY



[27] ROTARY ENCODER



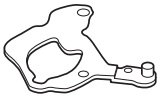
[28] GEAR COVER ASSY



[29] MAIN CAM ASSY

Fig.2-1-23

[30] SLIDE ARM ASSY



[31] CONNECT GEAR 2

[32] SUB CAM ASSY

[33] CONTROL ARM ASSY

[34] REEL GEAR 1

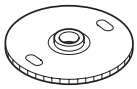
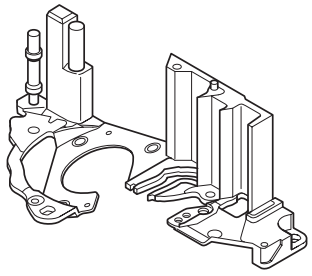
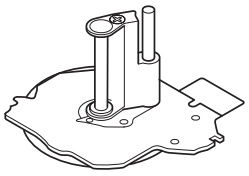


Fig.2-1-24

[35] DRUM BASE ASSY



[36] CAPSTAN MOTOR



[37] MAIN DECK ASSY

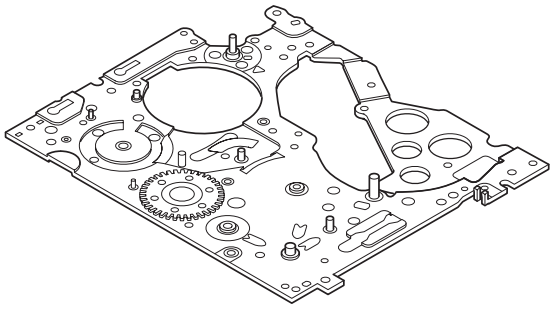


Fig.2-1-30

2.1.9 SERVICE NOTE

Use the following chart to manage screws.

Symbol No.	[1]			[2]	[3]			[6]			[10]	[11]			[20]			[21]	[22]	
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Place to stick screw																				
Reference drawing (Fig. No.2-1-**)	14				15				16		17		18			21			22	
Screw tightening torque	Ⅰ				Ⅱ															Ⅲ

Symbol No.	[27]			[28]			[32]	[35]			[36]
Removing order of screw	21	22	23	24	25	26	27	28	29	30	
Place to stick screw											
Reference drawing (Fig. No.2-1-**)	22					23	24				
Screw tightening torque	Ⅱ						Ⅳ			Ⅴ	

<NOTE>

·Pay careful attention to tightening torque for each screw.

Ⅰ : 0.069N·m(0.7kgf·cm)　　Ⅱ : 0.055N·m(0.56kgf·cm)　　Ⅲ : 0.0198N·m(0.2kgf·cm)

Ⅳ : 0.078N·m(0.8kgf·cm)　　Ⅴ : 0.039N·m(0.4kgf·cm)

Fig.2-1-31

2.1.10 REMARKS

2.1.10.1 Cleaning

(1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:
Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

(2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.

(3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.1.10.2 Applying oil and grease

(1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.

(2) For parts and points to apply oil and grease, refer to the exploded view of the 3.1 DVC MECHANISM ASSEMBLY. Fig.2-1-32 specifies oil and grease to be used.

(3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

specifies oil and grease to be used

Fig.2-1-32

2.2 VHS-C MECHANISM

2.2.1 Precautions

(1) When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.216 N•m (2.2 kgf•cm). Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.
(2) Be sure to disconnect the set from the power supply before fastening and soldering parts.
(3) When disconnecting/connecting wires, be careful not to get them and their connectors damaged.
(4) When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

Example

STEP/LOC. No.	PART NAME		FIG.	REMOVAL POINT	INSTALLATION ADJUSTMENT CONDITION NOTE
[1]	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
[2]	TENSION ARM ASSEMBLY	T	M1	(P1), (W1a)	–
[3]	REEL DISC (SUP)	T	M1	(W1a), (W1b)	–
↑ *1	↑ *2	↑ *3	↑ *4	↑ *5	↑ *6

2.2.2 How to read the disassembly and assembly

*1 Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.
*2 Part to Name be removed or installed.
*3 Location of part.

T = The Upper side
B = The Lower side

*4 Fig. No. showing Procedure or Part Location.
M = Mechanism
*5 Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

Example

- Remove (W1)=Washer W1.
- Remove the solder at (SD1)=Point SD1.
- Disconnect A = Connector A.

*6 Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.2.3 DISASSEMBLY/ASSEMBLY PROCEDRURE TABLE

This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART NAME		FIG.	REMOVAL POINT	INSTALLATION ADJUSTMENT CONDITION NOTE
[1]	ROLLER BASE ASSY	T	M1	(1)	–
[2]	TENSION ARM ASSY	T	M1	(P1), (W1a)	–
[3]	REEL DISC	T	M1	(W1a), (W1b)	–
[4]	SLANT ARM ASSY	T	M1	(W1a)	–
[5]	CANCEL LEVER ASSY	T	M2	(W2)	–
[6]	EJECT LEVER ASSY	T	M2	(W2)	–
[7]	CASSETTE GUIDE (LEFT)	T	M2	(2)	–
[8]	SUPPLY CLUTCH ASSY	T	M2	(W2)	–
[9]	WHEEL GEAR	T	M2	(W2)	See, Adjustment procedure for Section 2.2.5
[10]	ROTARY ENCODER	B	M3	4(S3a)	The function of this part varies according to the ASSY (VHS/SVHS) which this part is rporated in. (Refer to fig. 2-2-6)
[11]	TIMING BELT	B	M3	–	–
[12]	CENTER PULLEY UNIT	T/B	M3	2(S3a)	–
[13]	CASSETTE GUIDE (R) ASSY	T	M3	(S3b), (P3)	(Only use SVHS model)
[14]	TAKE UP GEAR	T	M3	(W3a)	–
[15]	BRAKE SUB GEAR	T	M3	(W3a)	–
[16]	PINCH ROLLER ARM ASSY	T	M3	(W3b)	–
[17]	TAKE UP GUIDE ARM ASSY	T	M3	(W3a)	–
[18]	LINK ARM ASSY	T	M4	(W4)	–
[19]	LED GUIDE	T	M4	(S4a)	–
[20]	A/C HEAD UNIT	T	M4	2(S4b)	–
[21]	SLANT POLE BASE ASSY	T	M5	(S5a)	–
[22]	CAPSTAN MOTOR	T	M5	3(S5a)	–
[23]	MOTOR BASE	T	M5	2(S5b), (S5c)	–
[24]	BRUSH	B	M6	(S6a)	–
[25]	DRUM FINAL ASSY	T/B	M6	2(S6b), 2(S6c) *CATCHER	–
[26]	GUIDE RAIL	T	M6	7(S6d), 8(S6d)	(Refer to part list.)
[27]	POLE BASE (S)ASSY	T	M6	–	–
[28]	POLE BASE (T)ASSY	T	M6	–	–
[29]	COVER PLATE	T	M7	–	–
[30]	DRIVE LEVER ASSY	T	M7	–	–
[31]	MOTOR BRACKET ASSY	T	M7	3(S7)	–
[32]	CONTROL CAM	T	M8	(W8a)	See, Adjustment procedure for Section 2.2.5
[33]	LINK LEVER	T	M8	_	See, Adjustment procedure for Section 2.2.5
[34]	MIDDLE GEAR	T	M8	–	–
[35]	LOADING GEAR(T) ASSY	T	M8	(W8b)	See, Adjustment procedure for Section 2.2.5
[36]	LOADING GEAR(S) ASSY	T	M8	(W8b)	–
[37]	LOADING RING ASSY	T	M8	4(S8)	See, Adjustment procedure for Section 2.2.5

Fig.2-2-1

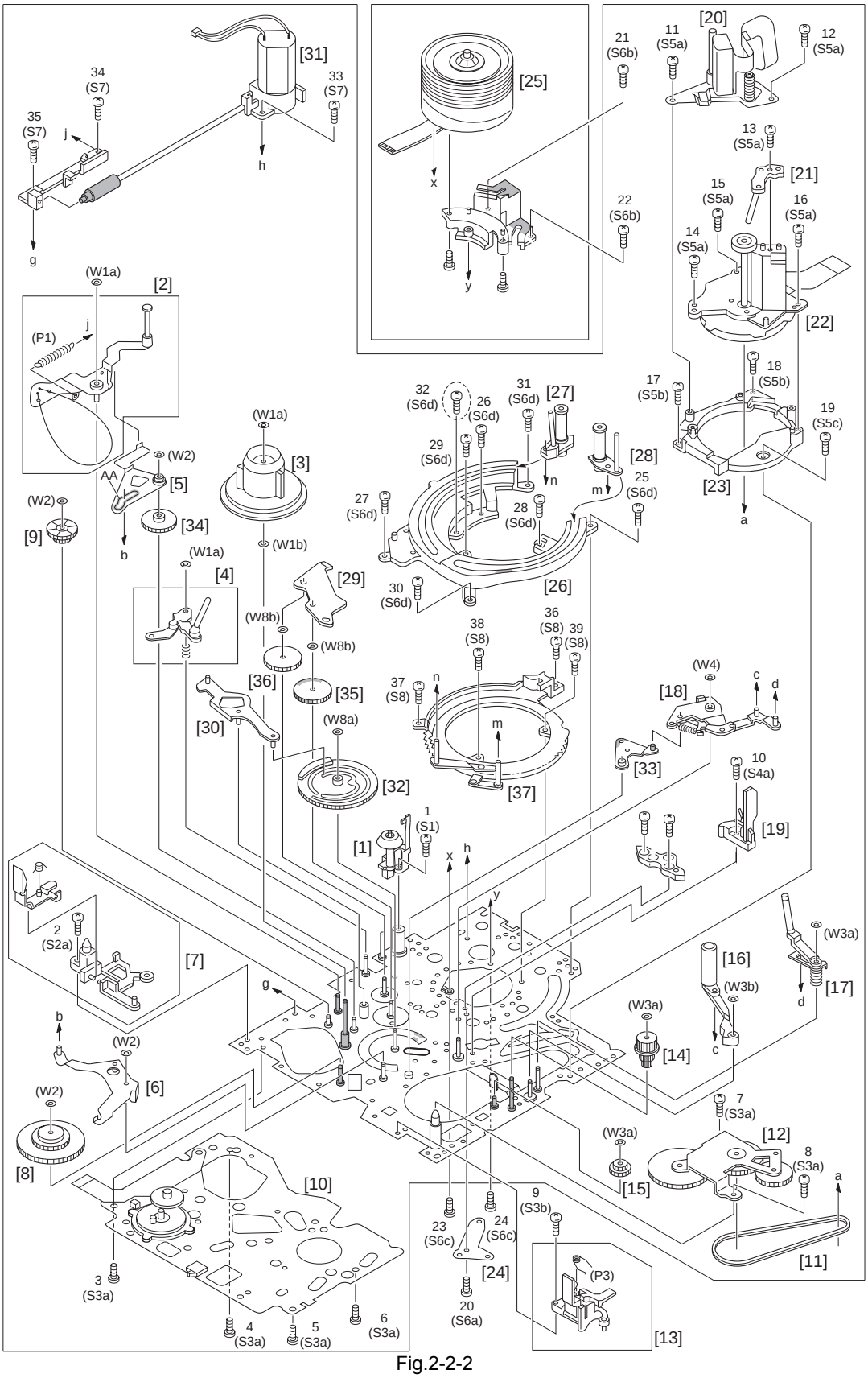

[31]
34 (S7)
33 (S7)
35 (S7)
j
h
g
[25]
x
y
21 (S6b)
22 (S6b)
[20]
11 (S5a)
12 (S5a)
13 (S5a)
[21]
15 (S5a)
16 (S5a)
14 (S5a)
[22]
(W1a)
[2]
(P1)
j
AA
(W2)
[5]
b
[34]
[9]
(W2)
(W1a)
[3]
(W1b)
[4]
[29]
(W8b)
(W8b)
[36]
[35]
[30]
(W8a)
[32]
32 (S6d)
26 (S6d)
31 (S6d)
[27]
29 (S6d)
n
[28]
m
25 (S6d)
27 (S6d)
28 (S6d)
[26]
30 (S6d)
17 (S5b)
18 (S5b)
19 (S5c)
[23]
a
38 (S8)
36 (S8)
39 (S8)
37 (S8)
n
m
[37]
(W4)
c
d
[18]
[33]
10 (S4a)
[19]
[1]
1 (S1)
x
h
y
2 (S2a)
[7]
g
b
(W2)
[6]
(W2)
[8]
[10]
3 (S3a)
4 (S3a)
5 (S3a)
6 (S3a)
23 (S6c)
24 (S6c)
9 (S3b)
[24]
20 (S6a)
(P3)
[13]
(W3a)
[16]
(W3b)
c
(W3a)
[14]
(W3a)
[17]
d
7 (S3a)
(W3a)
[15]
[12]
8 (S3a)
a
[11]

Fig.2-2-2

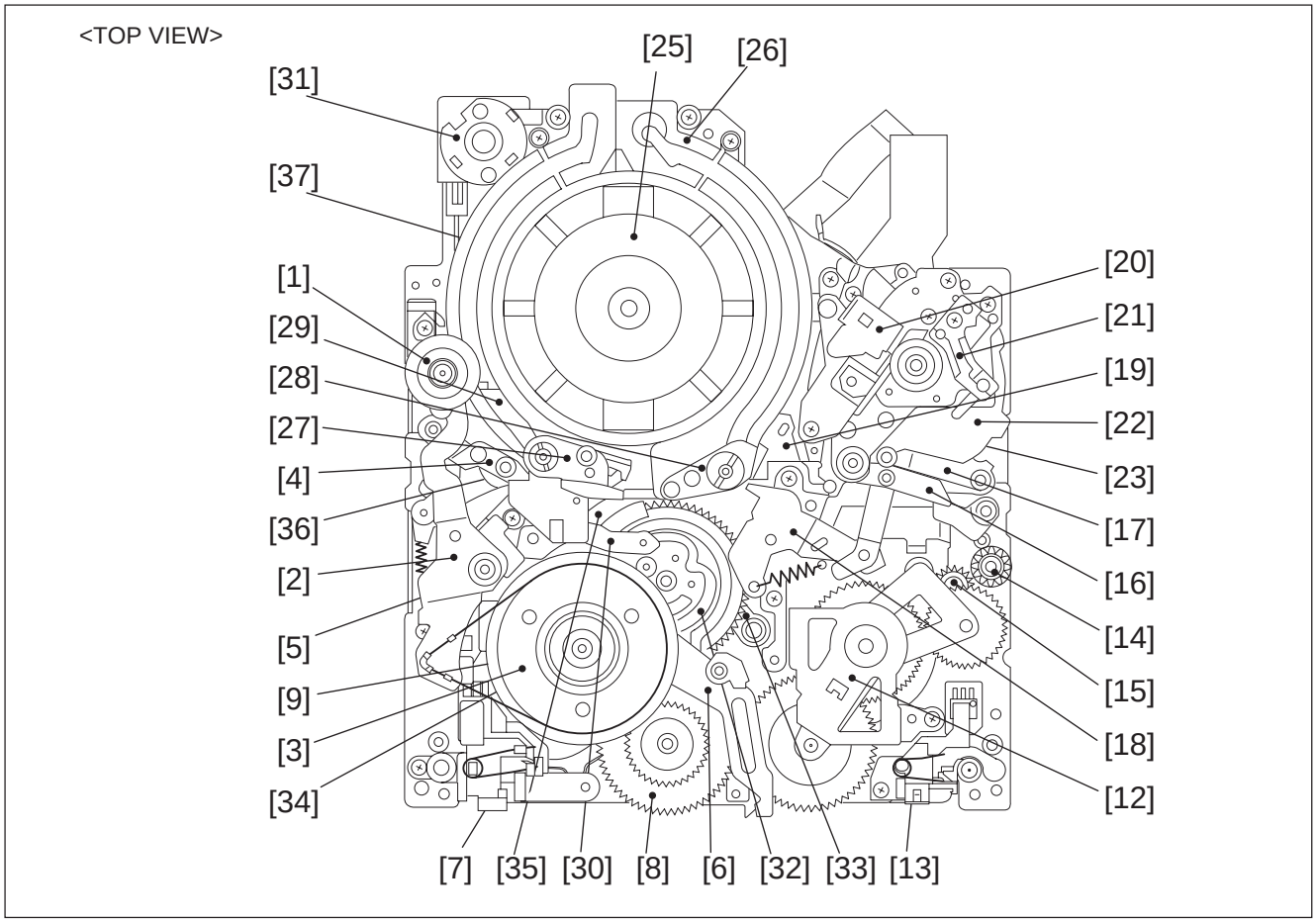


Fig.2-2-3

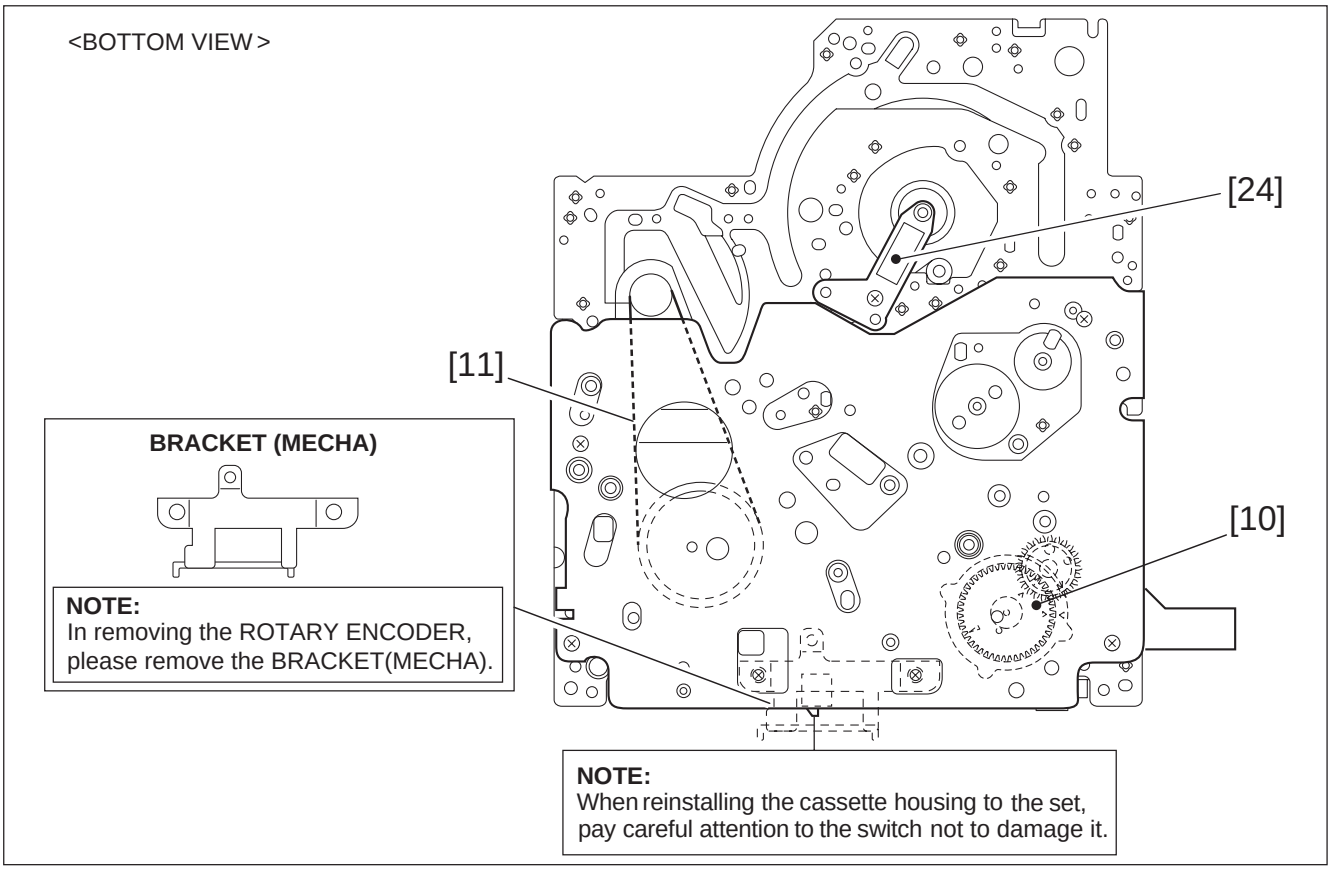

<BOTTOM VIEW>
[24]
[11]
[10]
BRACKET (MECHA)
NOTE:
In removing the ROTARY ENCODER, please remove the BRACKET(MECHA).
NOTE:
When reinstalling the cassette housing to the set, pay careful attention to the switch not to damage it.

Fig.2-2-4

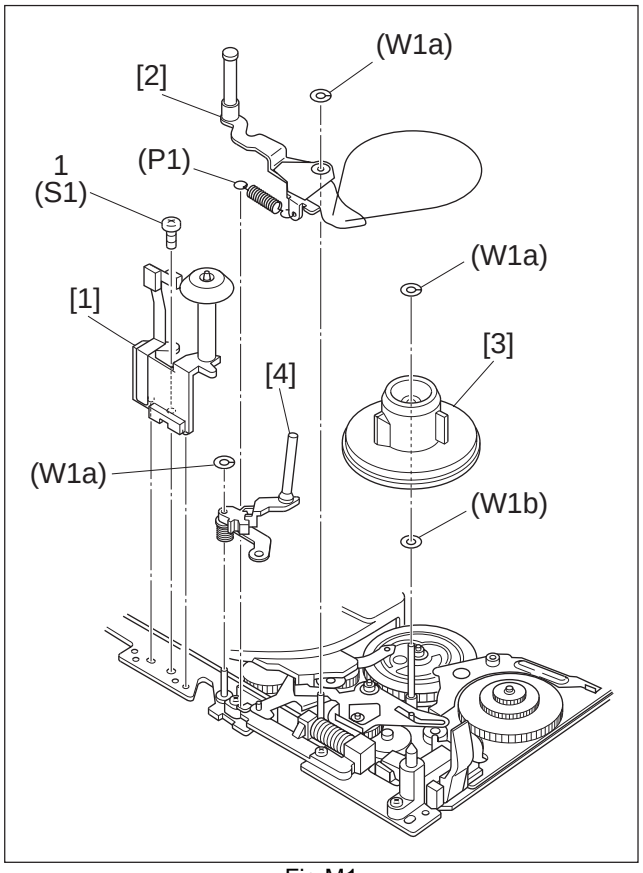


Fig.M1

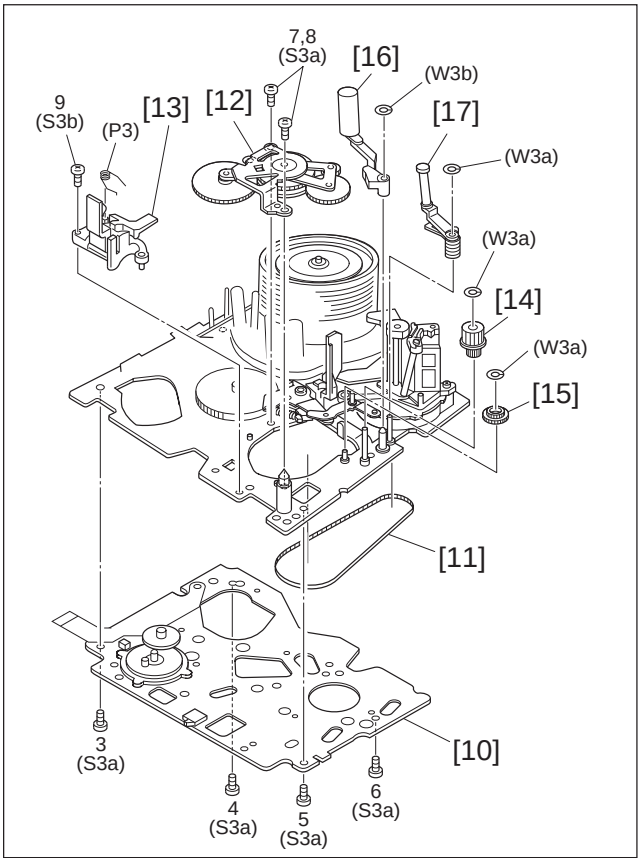


Fig.M3

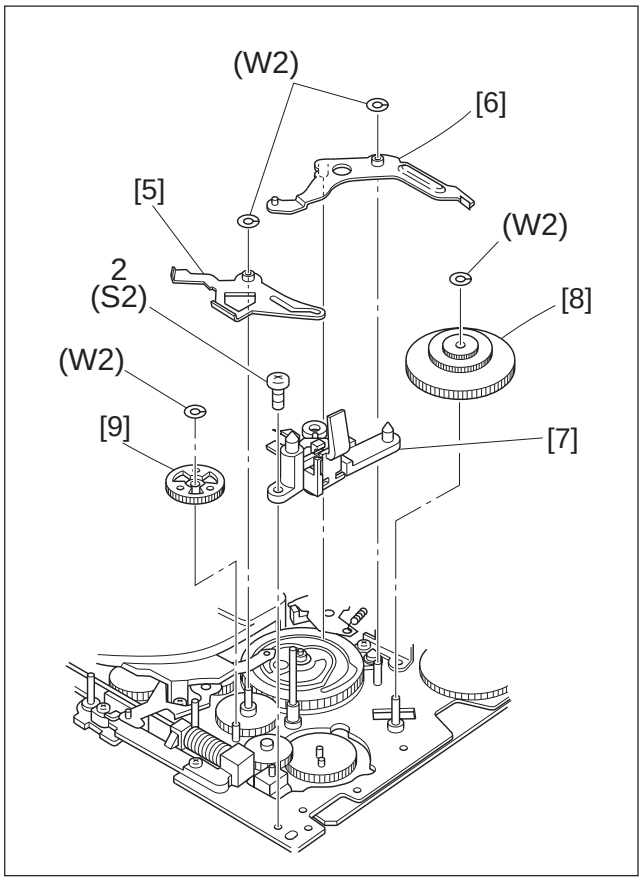


Fig.M2

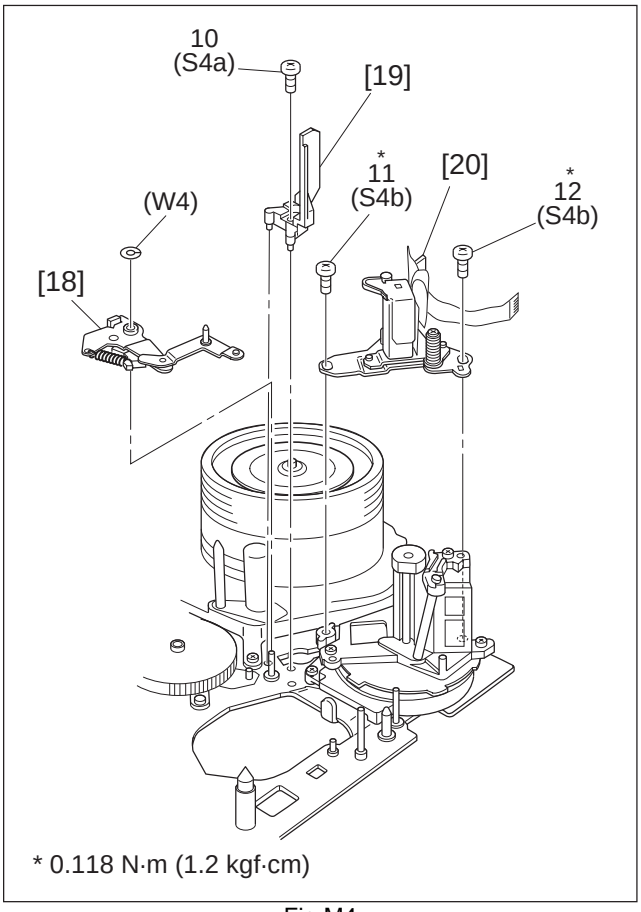


Fig.M4

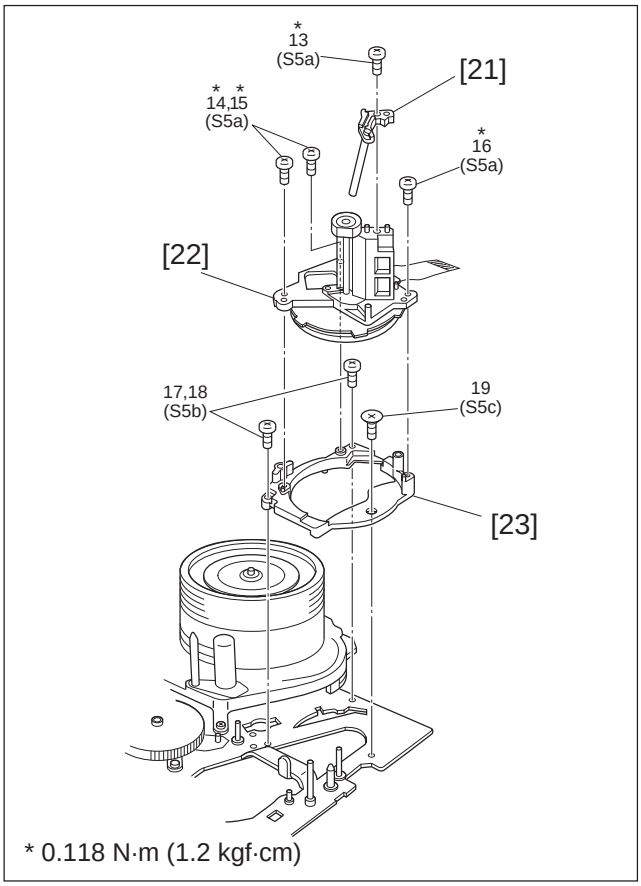


Fig.M5

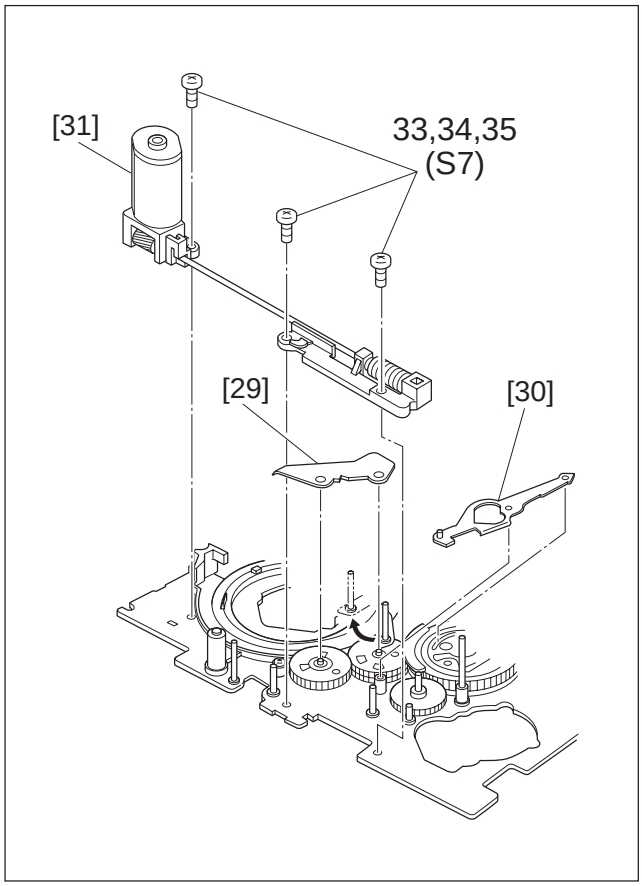


Fig.M7

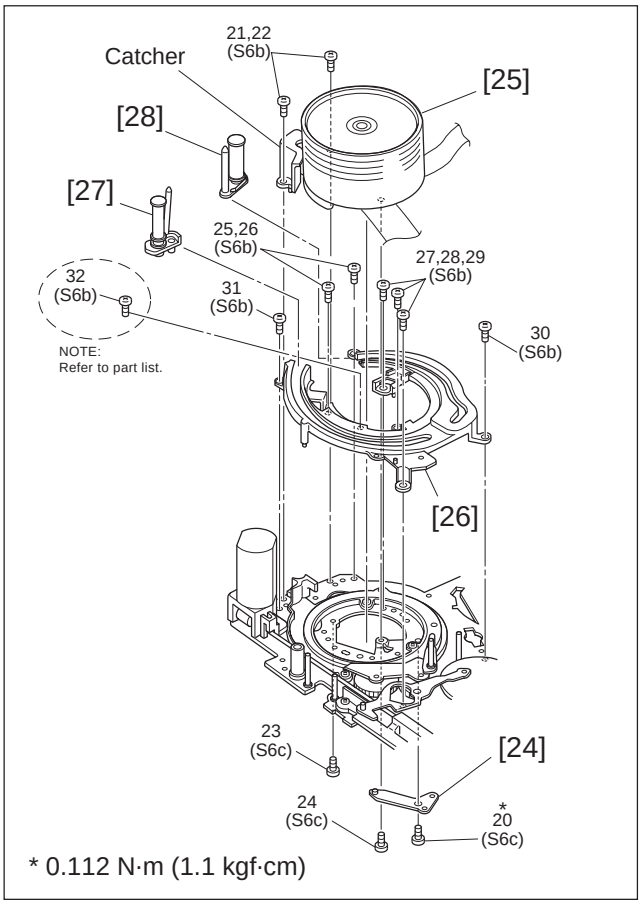


Fig.M6

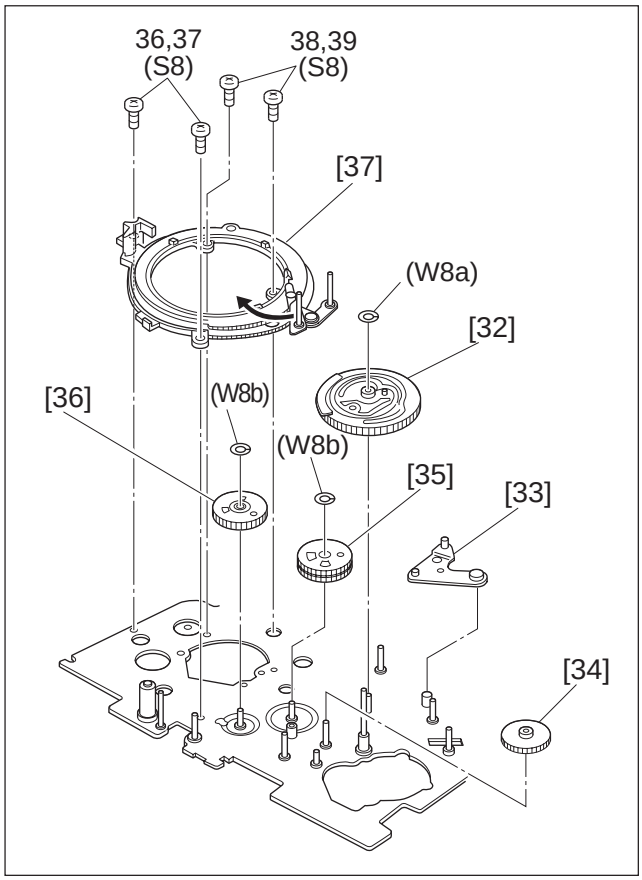


Fig.M8

2.2.4 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

NOTE:

Pay careful attention to the installing order and phase of mechanism parts of the loading system.

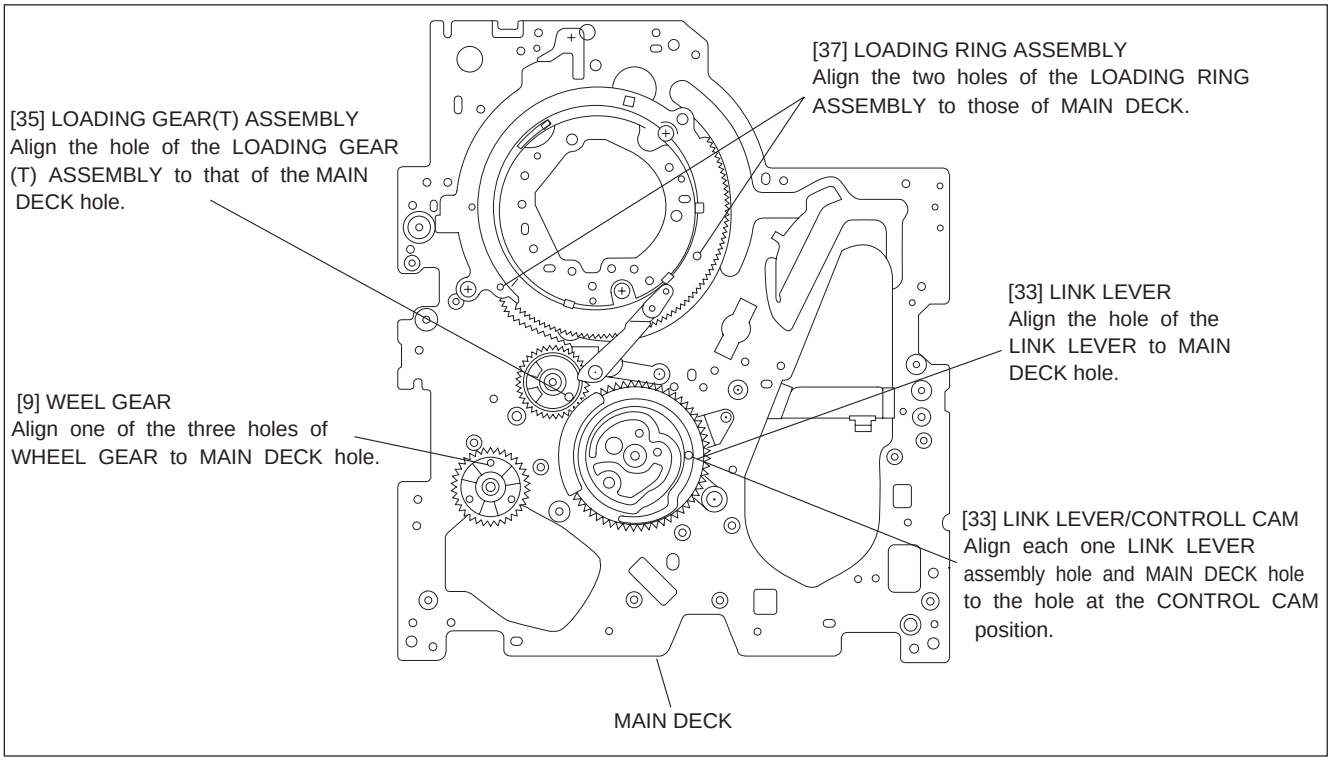

[37] LOADING RING ASSEMBLY
Align the two holes of the LOADING RING ASSEMBLY to those of MAIN DECK.
[35] LOADING GEAR(T) ASSEMBLY
Align the hole of the LOADING GEAR (T) ASSEMBLY to that of the MAIN DECK hole.
[33] LINK LEVER
Align the hole of the LINK LEVER to MAIN DECK hole.
[9] WEEL GEAR
Align one of the three holes of WHEEL GEAR to MAIN DECK hole.
[33] LINK LEVER/CONTROLL CAM
Align each one LINK LEVER assembly hole and MAIN DECK hole to the hole at the CONTROL CAM position.
MAIN DECK

Fig.2-2-5 Top of main deck

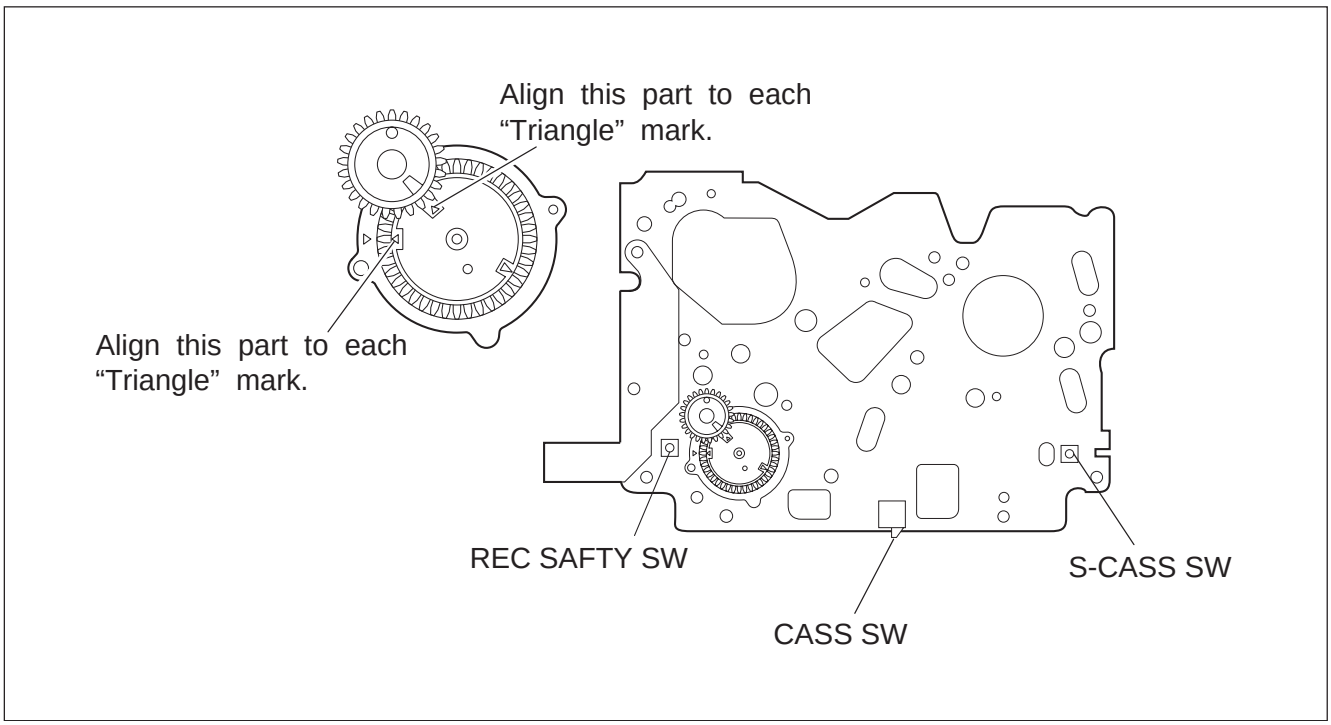


Fig.2-2-6 Rotary encoder

2.2.5 SERVISE NOTE

Use the following chart to manage screws.

Symbol No.	[1]	[7]	[10]				[12]		[13]	[19]	[20]		[21]	[22]			[23]		
Removing order of screw	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Place to stick screw																			
Reference drawing (Fig. No.)	M1	M2	M3							M4			M5						
Screw tightening torque	I										II						I		

Symbol No.	[24]	[25]			[26]							[31]			[37]		
Removing order of screw	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Place to stick screw																				
Reference drawing (Fig. No.)	M6													M7			M8			
Screw tightening torque	III	I																		

<NOTE>

・Pay careful attention to tightening torque for each screw.
Torque setting value of torque driver is limited. At the values over the maximum torque setting value, fasten a screw manually not to damage the screw thread.

I : 0.216N・m(2.2kgf・cm)　　II : 0.118N・m(1.2kgf・cm)　　III : 0.112N・m(1.1kgf・cm)

Fig.2-2-7

2.2.6 REMARKS

2.2.6.1 Cleaning

(1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:
Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

(2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.

(3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.2.6.2 Applying oil and grease

(1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.

(2) For parts and points to apply oil and grease, refer to the exploded view of the 3.2 VHS-C MECHANISM ASSEMBLY. Fig.2-2-8 specifies oil and grease to be used.

(3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB

specifies oil and grease to be used

Fig.2-2-8

2.3 VHS MECHANISM

2.3.1 Notes

This model's mechanism relates closely to the rotary encoder and system control circuit (the rotary encoder is meshed with the control cam).
The system control circuit detects the mechanism condition using the rotary encoder's phase (internal switch phase). Therefore, the parts such as the rotary encoder, control plate, loading gear and control cam need to be installed correctly in order for the mechanism to operate properly. (For the mechanism phase adjustment, refer to the installation of each part.)

- Before using a soldering iron, be sure to disconnect the power plug from the AC outlet.
- Do not touch any of the adjustment points until a defect position is specified.
- When plugging or unplugging the connector, be sure not to damage the wire.
- Be sure the springs are hooked all the way around and in the correct direction.
- When performing repairs, take care not to damage a catch, etc.

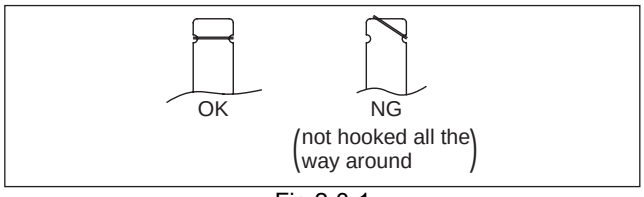


Fig.2-3-1

2.3.2 Mechanism operation check

When the mechanism is operated without a cassette loaded, operate the mechanism in the mechanism service mode.

2.3.3 Setting the mechanism assembling mode

The mechanism-assembling mode is provided with this mechanism. When disassembling and assembling, it is required to engage this mode.
Set the mode by adopting the following procedures.

(1) Remove the mechanism assembly using the disassembling procedure.
(2) Turn gear (a) of the loading motor manually to set the mechanism assembly to the eject end mode. Make sure that the main deck is connected to the guide hole (a) of the drive lever and the seal (a) of the main deck is connected to the mark "E" of the control plate. This condition is called the mechanism-assembling mode.

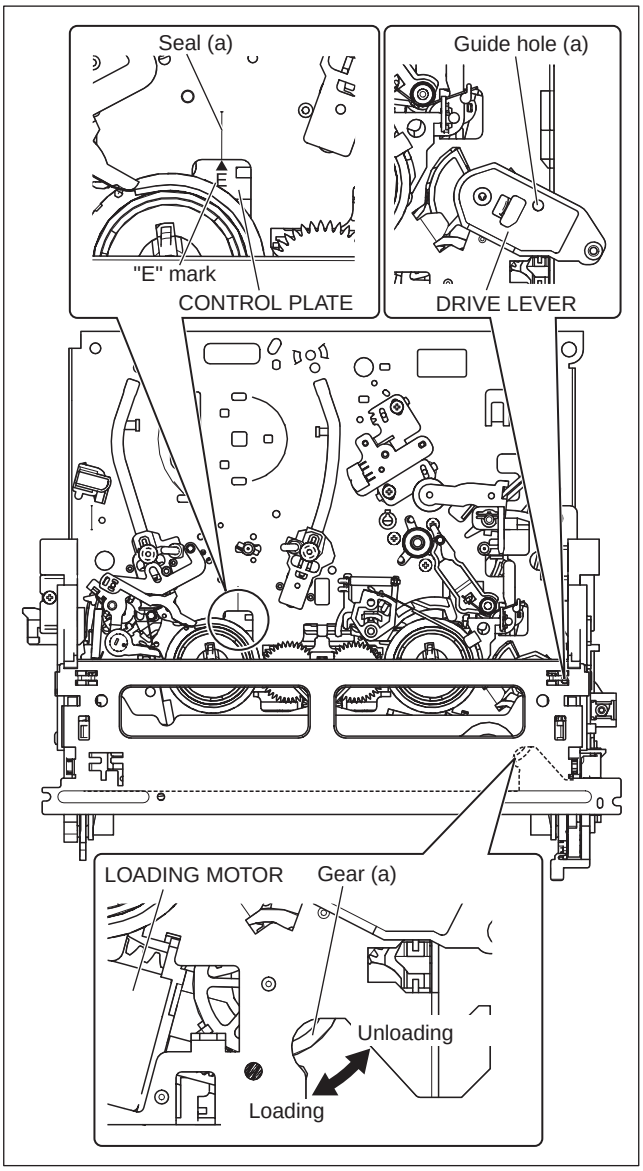


Fig.2-3-2

2.3.4 Layout of the main mechanism parts

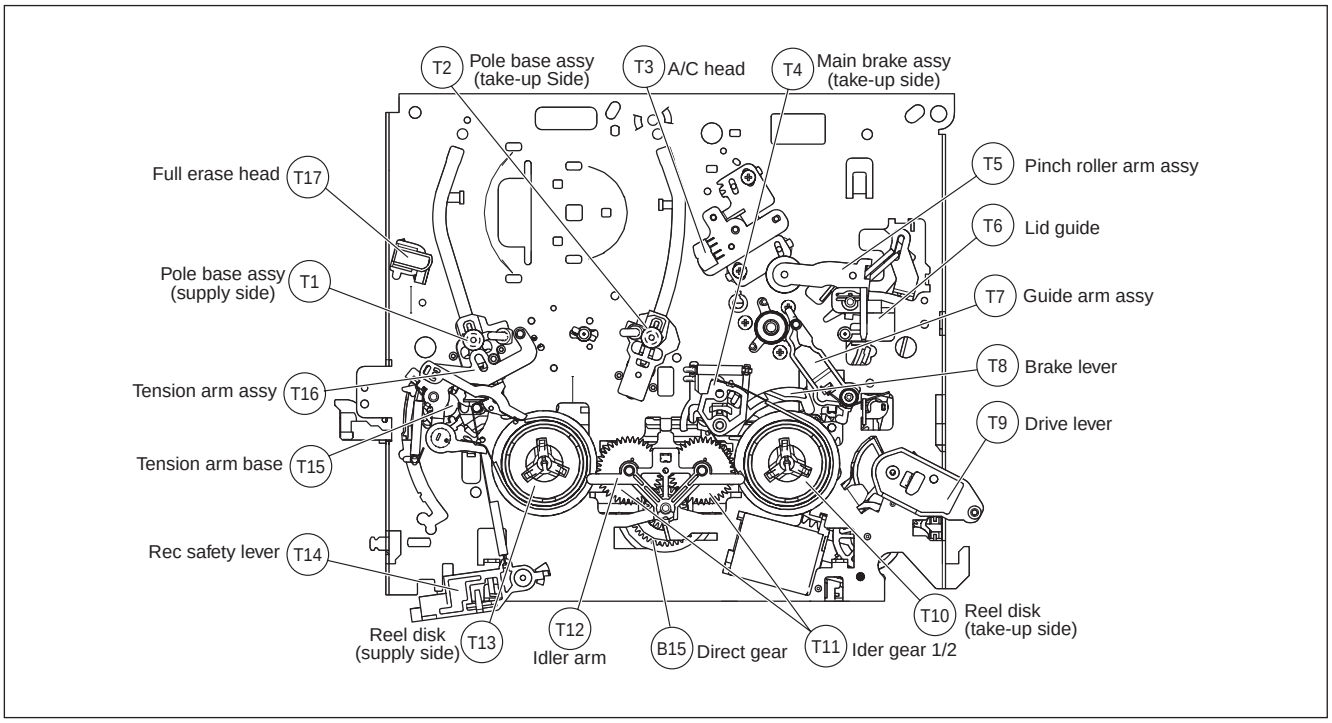

T2 Pole base assy (take-up Side)
T3 A/C head
T4 Main brake assy (take-up side)
Full erase head T17
T5 Pinch roller arm assy
T6 Lid guide
Pole base assy (supply side) T1
T7 Guide arm assy
T8 Brake lever
Tension arm assy T16
T9 Drive lever
Tension arm base T15
Rec safety lever T14
T10 Reel disk (take-up side)
Reel disk (supply side) T13
T12 Idler arm
B15 Direct gear
T11 Ider gear 1/2

Fig.2-3-3

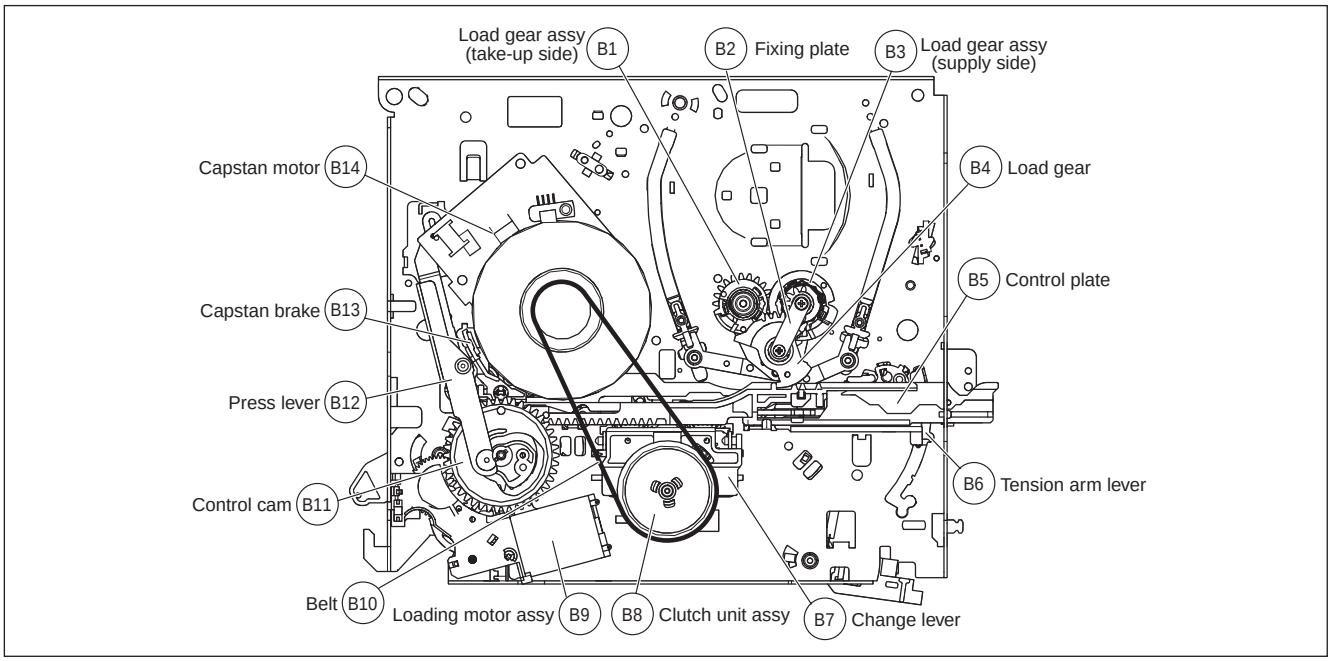


Fig.2-3-4

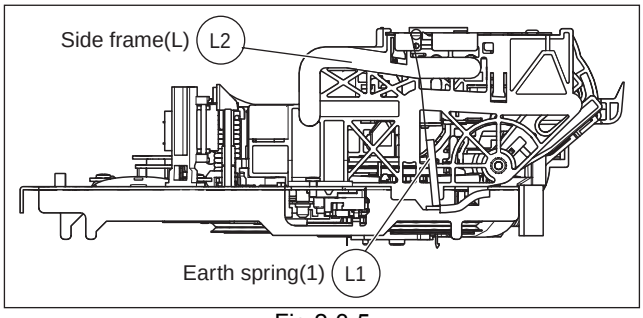


Fig.2-3-5

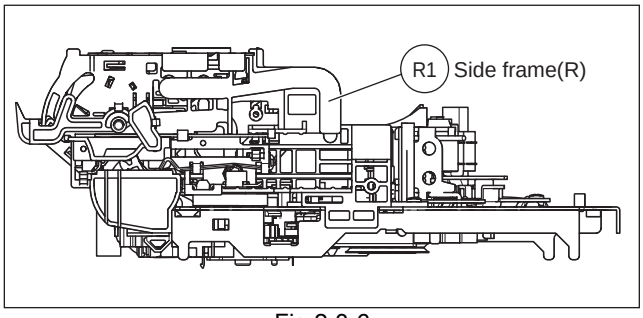


Fig.2-3-6

2.3.5 Disassembling procedure table

This table shows the order of parts removal when replacing each part. For replacement, remove the parts in the order of 1 to 13 shown in the table and install the parts in the reverse order.

The symbol number before each part name shows the number in the figure “Layout of the main mechanism parts”. T and B on the right of each part name show the side from which the part should be removed (T: From the front of the mechanism, B: From the rear of the mechanism, T/B: From both sides).

Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front(T)/Back(B) of mechanism	Number of removal steps	Earth spring (1)	Top frame	Cassette holder	Side frame (L)	Drive arm	Side frame (R)	Lid guide	Idler arm	Idler gear 1/2	Main brake (T)	Reel disk (T)	Tension arm	Tension arm base	Press lever	Control cam	Capstan brake assy	Loading motor assy	Belt	Fixing plate	Load gear	Loading gear assy (S)	Loading gear assy (T)	Control plate	Clutch unit	Direct gear
L1	2.1 Earth spring (1)	T	1																									
-	2.1 Top frame	T	2	1																								
-	2.1 Cassette holder	T	3	1	2																							
L2	2.1 Side frame (L)	T	3	1	2																							
-	2.1 Drive arm	T	5	1	2	3	4																					
R1	2.1 Side frame (R)	T	3	1	2																							
T3	2.2 A/C head	T	1																									
T17	- FE head	T/B	1																									
T7	2.3 Guide arm assy	T	1																									
T6	2.3 Lid guide	T	1																									
T5	2.3 Pinch roller arm assy	T	2							1																		
T12	2.4 Idler arm	T	4	1	2	3																						
T11	2.4 Idler gear 1/2	T	5	1	2	3					4																	
T4	2.5 Main brake assy (T)	T	6	1	2	3					4	5																
T10	2.5 Reel disk (T)	T	7	1	2	3					4	5	6															
T16	2.5 Tension arm	T	6	1	2	3					4	5																
T13	2.5 Reel disk (S)	T	7	1	2	3					4	5			6													
T15	2.5 Tension arm base	T	7	1	2	3					4	5			6													
-	- T-up head	T	8	1	2	3					4	5			6	7												
-	- T-up lever	T	8	1	2	3					4	5			6	7												
T8	2.5 Brake lever	T	8	1	2	3					4	5	6	7														
T14	2.5 Rec safety lever	T	7	1	2	3	4	5	6																			
B12	2.6 Press lever	B	1																									
B11	2.6 Control cam	B	2														1											
B13	2.6 Capstan brake assy	B	3														1	2										
B9	2.6 Loading motor assy	B	4														1	2	3									
B10	2.7 Belt	B	1																									
B14	2.7 Capstan motor	T/B	2																		1							
-	- Wire holder	T/B	1																									
B2	2.7 Fixing plate	B	1																									
B4	2.7 Load gear	B	2																			1						
B3	2.7 Loading gear assy(S)	B	3																			1	2					
B1	2.7 Loading gear assy(T)	B	4																			1	2	3				
T1	- Pole base assy(S)	T/B	4																			1	2	3				
T2	- Pole base assy(T)	T/B	5																			1	2	3	4			
-	- Load gear base	B	5																			1	2	3	4			
B5	2.7 Control plate	B	6														1	2			3	4	5					
T9	- Drive lever	T/B	10	1	2	3	4	5	6								7	8		9								
B8	2.8 Clutch unit	B	2																		1							
B15	2.8 Direct gear	B	3																		1						2	
B7	- Change lever	T/B	6								1	2									3						4	5
B6	- Tension arm lever	T/B	14	1	2	3					4	5			6	7	8	9			10	11	12			13		

2.3.6 REPLACEMENT OF THE MAIN MECHANISM PARTS

2.3.6.1 Cassette holder

2.3.6.1.1 Removal

(1) Remove the screws (a) and (b).
(2) Hold up the top frame, cassette holder assembly, drive arm assembly and side frames (L/R) all together and remove them by releasing the hooks (a) and (b).

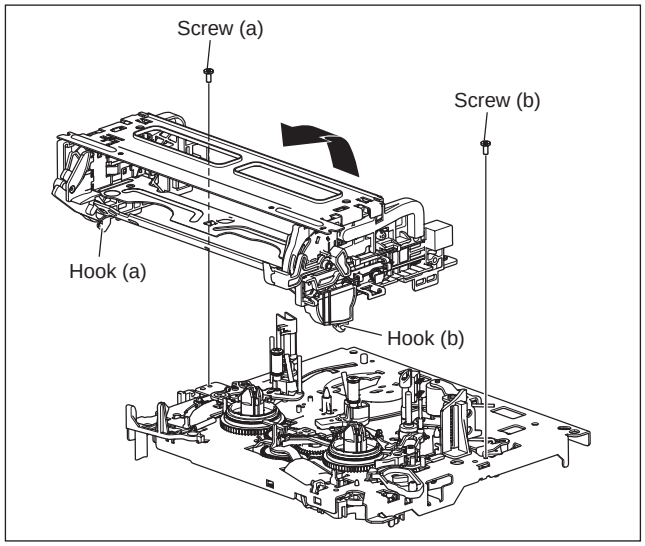


Fig.2-3-7

2.3.6.1.2 Installation (phase adjustment)

(1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
(2) Hook the main deck to hooks (a) and (b).
(3) Place the projection of the drive lever to section (a) of the side frame (R) and install the cassette holder to the main deck. Make sure that the bosses of the side frame (L/R) connect with the holes (a) and (b) of the main deck.
(4) Secure screws (a) and (b).

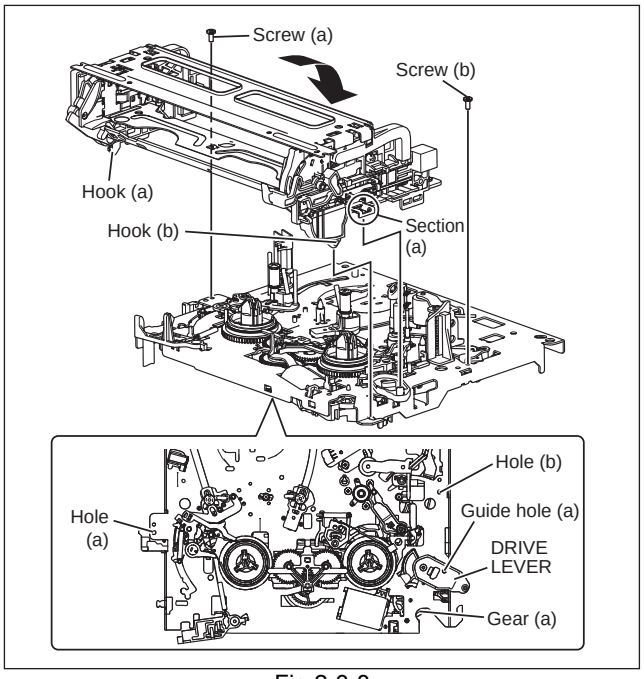


Fig.2-3-8

2.3.6.1.3 Disassembling

(1) Release hook (a) to remove the earth spring (1) from the top frame.
(2) Release the catches (a) and (b) and pull the top frame in the direction shown by the arrow (a) to remove it.
(3) Pull out the side frame (R).
(4) Pull out the cassette holder assembly and drive arm assembly from the side frame (L).

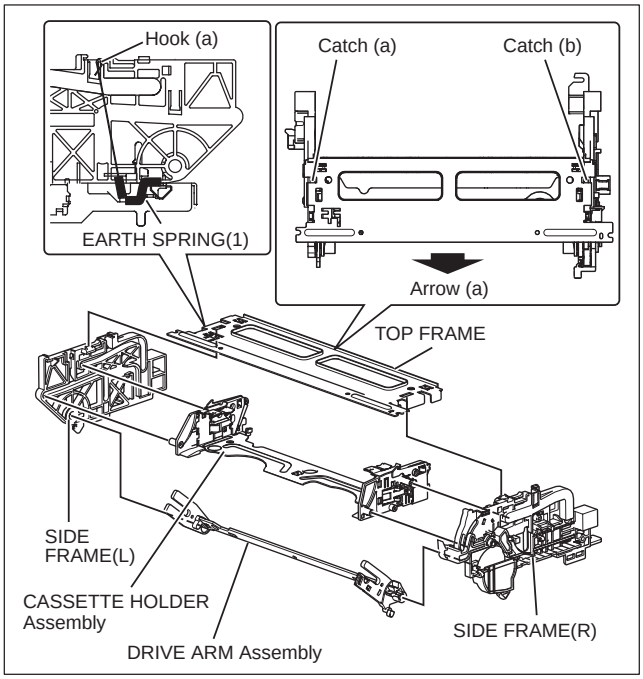


Fig.2-3-9

2.3.6.1.4 Assembling (installation and phase adjustment)

(1) Turn gear (a) of the loading motor assembly so that the main deck connects to the guide hole (a) of the drive lever.
(2) Place the projection of the drive lever on section (a) of the side frame (R) and install the side frame (R) to the main deck.
(3) Secure screw (b).
(4) Place section (b) of the drive arm on the gear of the side frame (R). Make sure that the pin of the door opener connects with section (c) of the drive arm.
(5) Place the drive arm on section (d) of the side frame (L) and install the side frame (L) on the main deck. Be sure to connect the earth spring (1) to the side frame (L).
(6) Secure screw (a).
(7) Turn gear (a) of the loading motor assembly until the drive arm is vertical.
(8) Place the slit of the side frame (L/R) at the foot of the cassette holder assembly and install the cassette holder.
(9) Place the top frame on the position guide (a) of the side frame (L/R) and push it in the direction shown by the arrow (a) for installation.
(10) Hook the earth spring (1) to the hook (a) of the top frame.

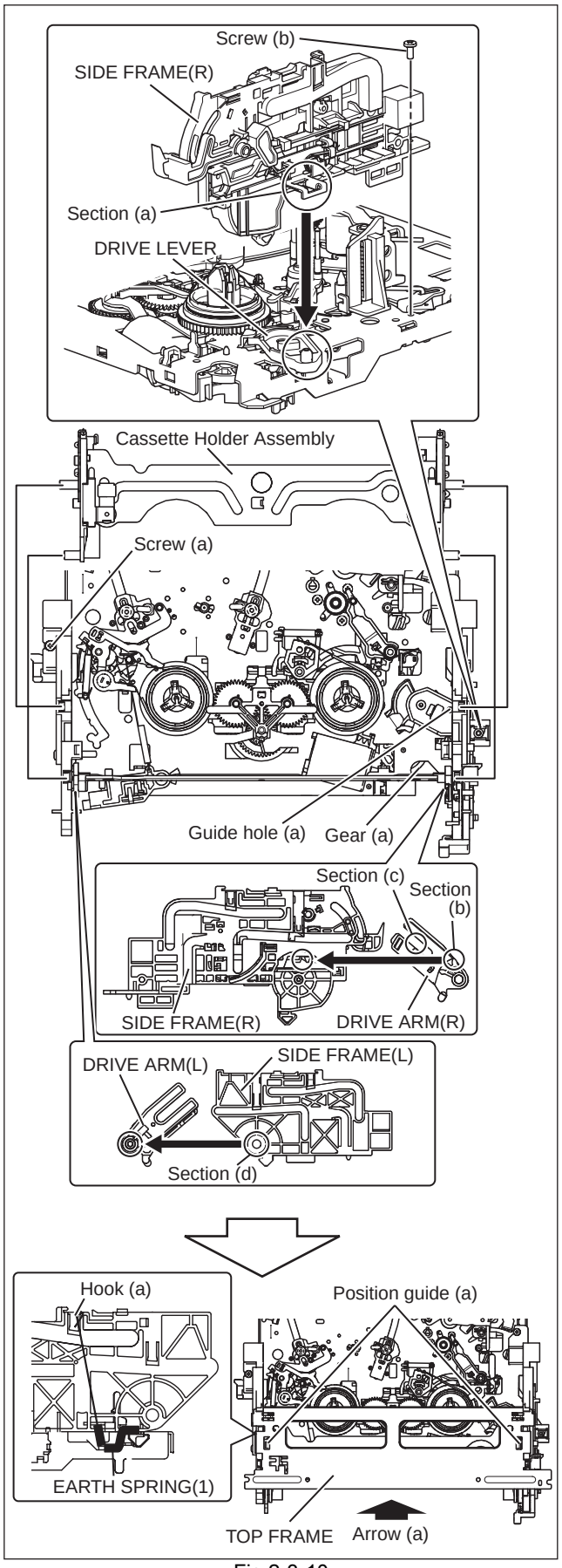


Fig.2-3-10

2.3.6.2 A/C head

2.3.6.2.1 Removal

(1) Remove screws (a) and (b).
(2) Remove the A/C head together with the head base.
(3) Remove the screws (c), (d) and (e) to remove the spring (a) and the A/C head from the Head base.

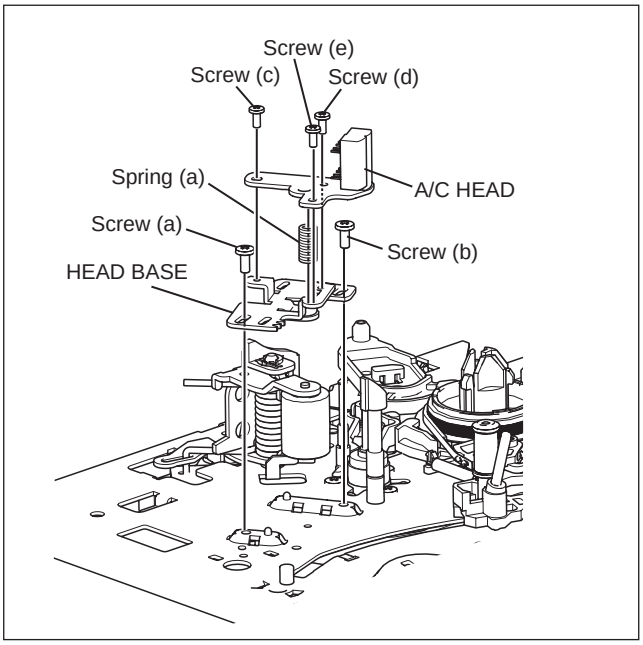


Fig.2-3-11

2.3.6.2.2 Installation (initial setting)

To install the A/C head to the head base, secure the screws in the order of (c), (d) and (e). To make the adjustment easy, temporarily elevate the A/C head.

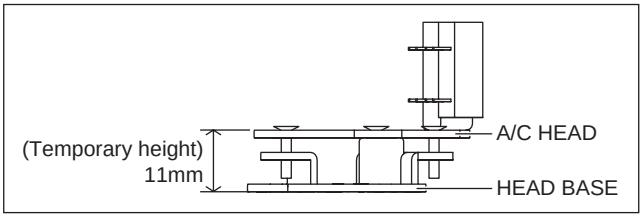


Fig.2-3-12

2.3.6.3 Guide arm, pinch roller arm

2.3.6.3.1 Removal

(1) Remove the spring (a) from the hook (a) and detach the guide arm assembly.
(2) Release the catch (a) to remove the lid guide.
(3) Remove the spring (b) from the hook (b) and detach the pinch roller arm assembly.

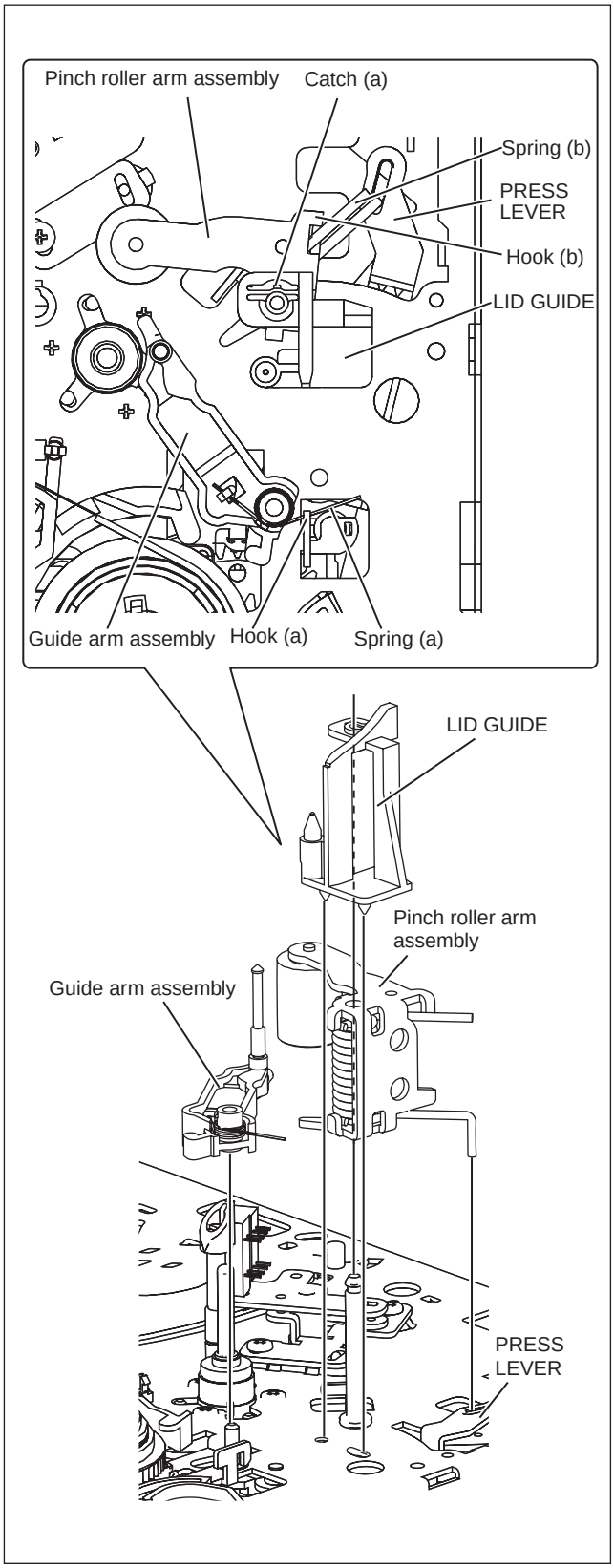


Fig.2-3-13

2.3.6.4 Idler arm, idler gear 1/2

2.3.6.4.1 Removal

(1) Release the catches (a) and (b) to detach the idler arm.
(2) Detach the idler gear 1/2.

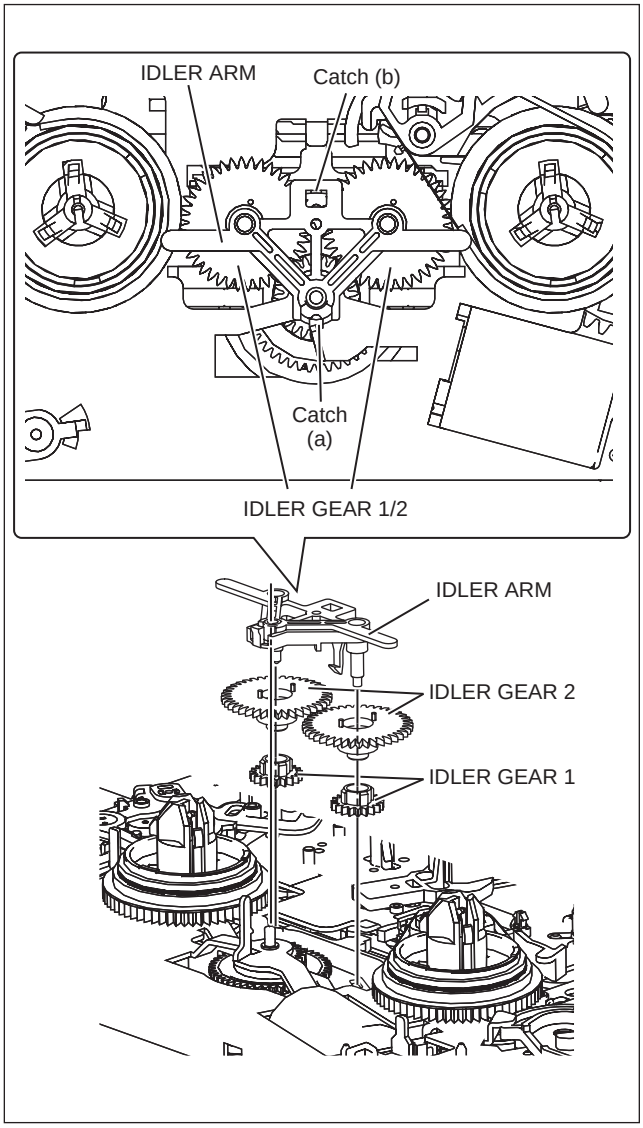


Fig.2-3-14

2.3.6.5 Main brake (T), brake lever, tension arm, reel disk (S/T), Rec safety lever

2.3.6.5.1 Removal

(1) Remove the spring (a). (Detach section (b) of the spring (a).)
(2) Release the catch (a) to detach the main brake (T).
(3) Release the catch (b) to detach the reel disk (T) and the spacer.
(4) Lift up and turn section (b) of the brake lever counterclockwise to remove the brake lever.
(5) Remove the spring (b) from the hook (a).
(6) Release the catch (c) to detach the tension arm.
(7) Release the catch (d) to detach the reel disk (S) and the spacer.
(8) Remove the spring (c) from the hook (b).
(9) Turn the tension arm base in the direction shown by arrow (a) to release catch (e). Place the projections of the tension arm base to the holes (a) to detach the tension arm base.
(10) While releasing the catch (f), turn the Rec safety lever counterclockwise to remove it.

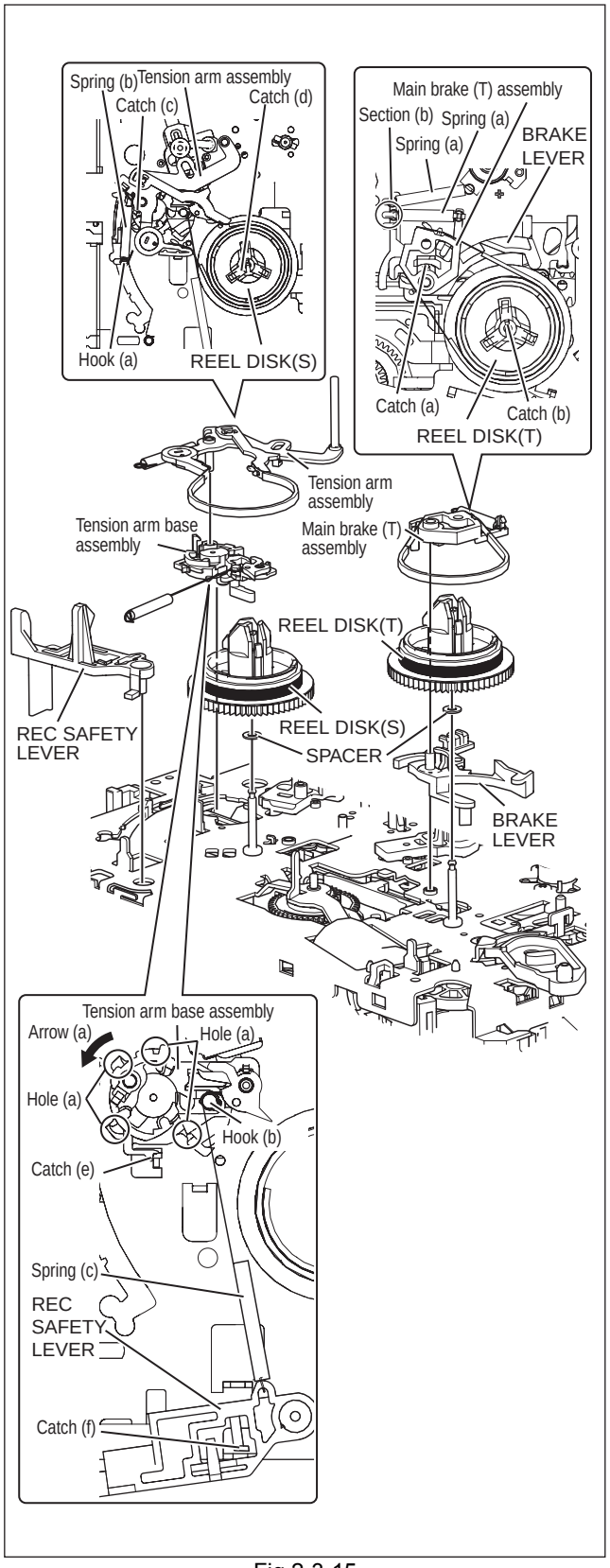


Fig.2-3-15

2.3.6.6 Press lever, control cam, capstan brake assembly, loading motor assembly

2.3.6.6.1 Removal

(1) Remove the slit washer (a) to detach the press lever.
(2) Release the slit washer (b) to detach the control cam.
(3) Release the catch (b) to detach the capstan brake assembly.
(4) Remove the solder (a).
(5) Remove the screw (a).
(6) Release the catches (c) and (d) to detach the loading motor assembly.

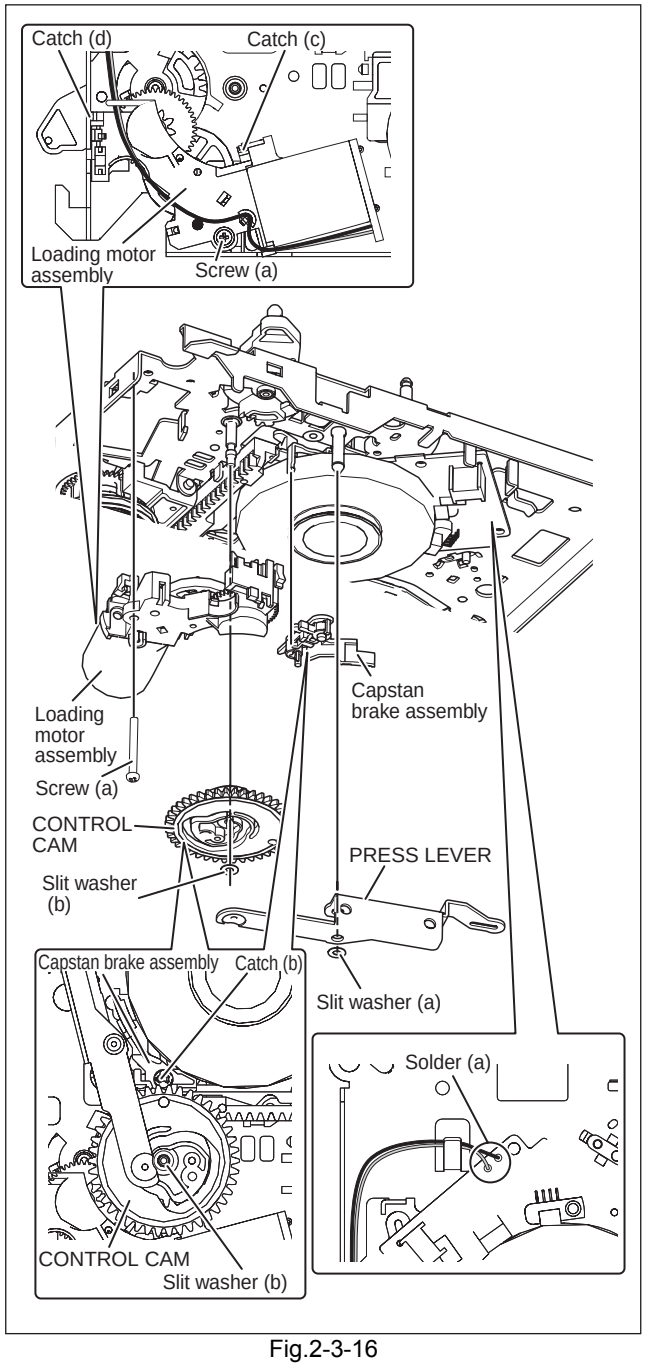


Fig.2-3-16

2.3.6.6.2 Installation (phase adjustment)

(1) Attach the loading motor assembly to the main deck.
(2) Secure the screw (a).
(3) Solder the wire to section (a).
(4) Arrange the wire along with the position guide (b).
(5) Attach the capstan brake assembly to the main deck.
(6) Place the main deck on the guide hole (a) of the control plate.
(7) Place the main deck on the guide hole (b) of the drive lever.
(8) Place the main deck no guide hole (c) of the control cam to install the control cam.
(9) Move the capstan brake in the direction shown by the arrow (a) to attach the press lever to the shaft (a). Make sure that the boss of the press lever fits in the control cam, and that the shaft (b) of the pinch roller arm assembly connects with the hole of the press lever.
(10) Attach slit washer (a) to shaft (a).

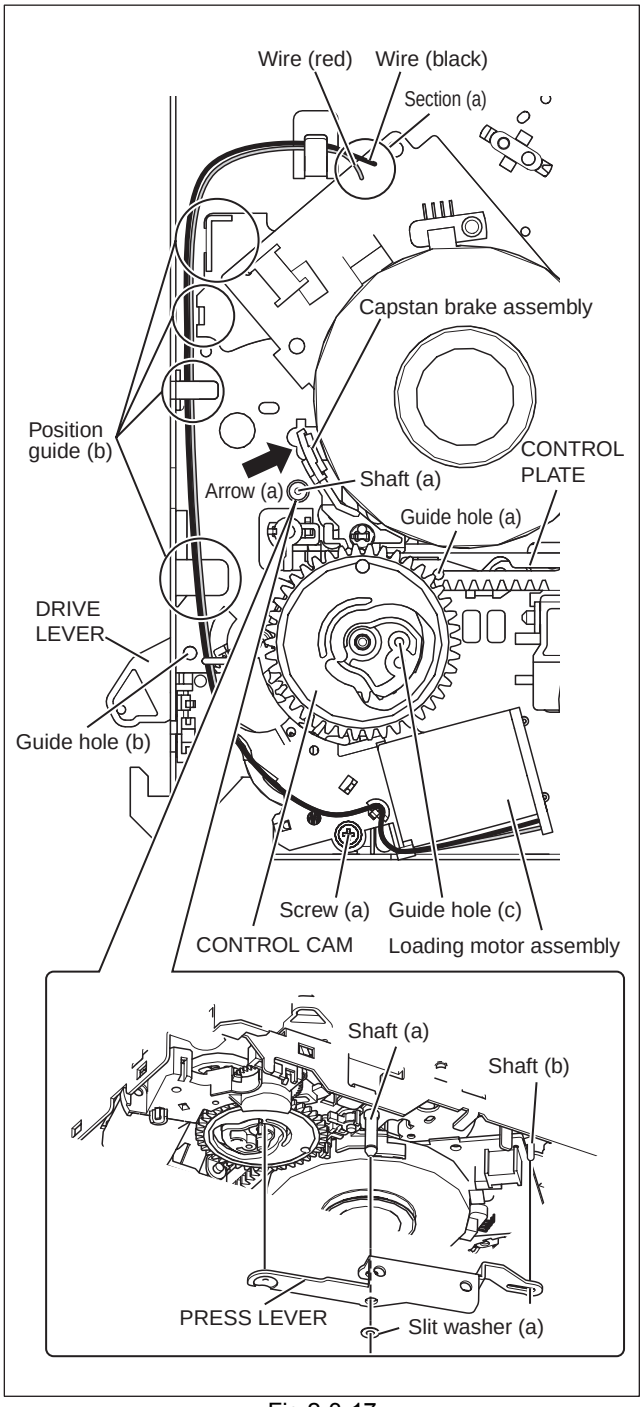


Fig.2-3-17

Note:

- When replacing the worm bearing of the loading motor assembly, attach it according to the following specification.
  If worm bearing is not attached correctly, a mechanism noise may occur. (See Fig. 2-3-18)

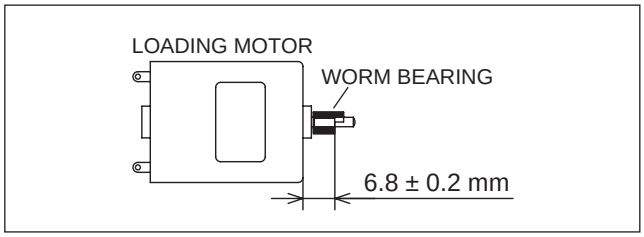


Fig.2-3-18

2.3.6.7 Capstan motor, load gear, control plate

2.3.6.7.1 Removal

(1) Detach the belt.
(2) Check that the FFC connector on the drum is disconnected.
(3) Release the catch (a) to remove the FFC wire.
(4) Remove the screws (a) to detach the capstan motor.
(5) Remove the screws (b) to detach the fixing plate.
(6) Release the catch (b) to detach the load gear.
(7) Turn the load gear (S/T) in the loading direction to detach it.
(8) Remove the control plate.

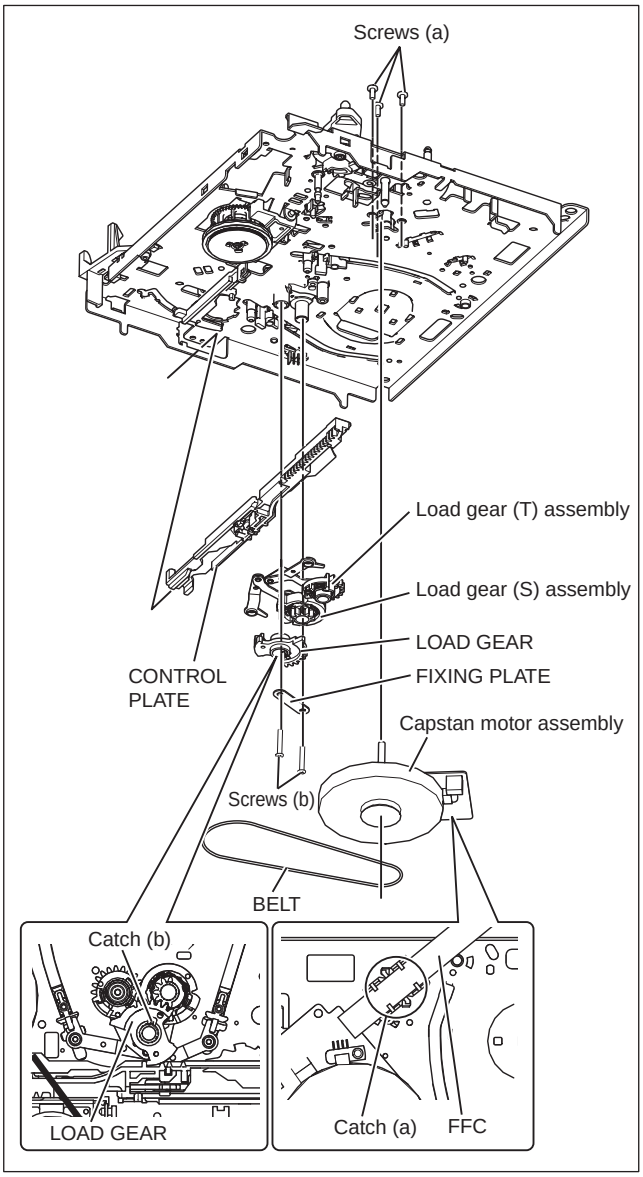


Fig.2-3-19

2.3.6.7.2 Installation (phase adjustment)

(1) Place the main deck on the guide hole (a) of the tension arm lever.
(2) Place the main deck on the guide hole (b) of the brake lever.
(3) Attach the control plate to align with the position guide (a).
(4) Place the hole (c) of the load arm (T) on the pole base (T) and the load gear (T) on the load gear base.
(5) Place the hole (d) of the load arm (S) on the pole base (S) and the load gear (S) on the load gear base. Be sure to align the guide mark (e) of the load gear (T) to that of the load gear (S).
(6) Turn the load gear (S/T) in the unloading direction to place the main deck on the guide hole (f) of the load gear (T).
(7) Place the main deck on the guide hole (g) of the control plate.
(8) Attach the load gear on the load gear base so that the control plate is placed on the edge (h) of the load gear.
(9) Place the fixing plate on the shaft of the load gear base and secure the screws (b).

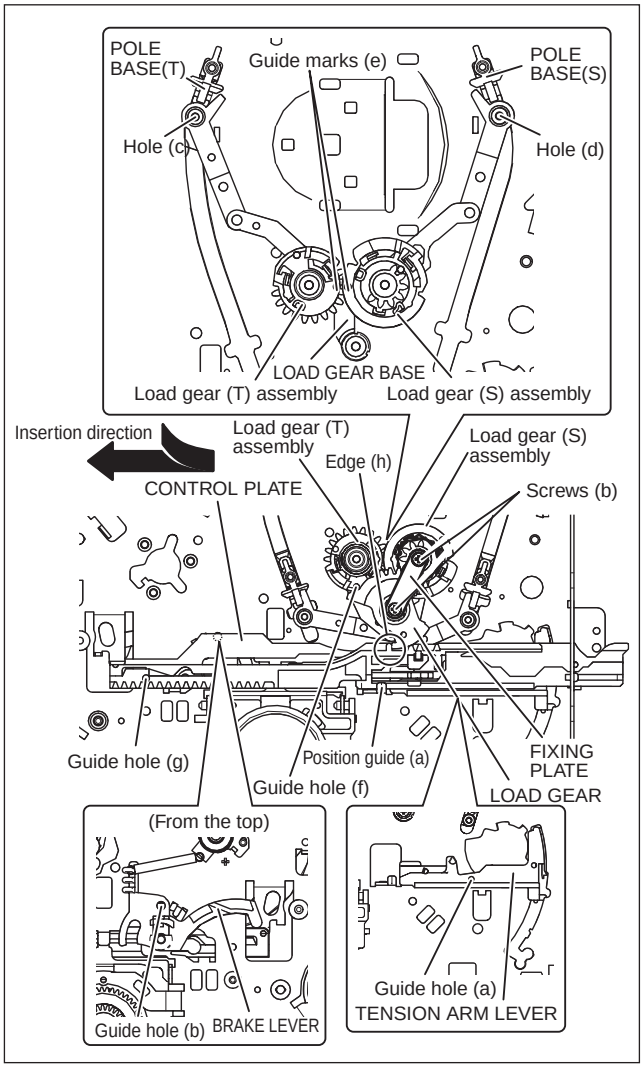


Fig.2-3-20

2.3.6.8 Clutch unit assembly, direct gear

2.3.6.8.1 Removal

(1) Remove the slit washer (a) to detach the clutch unit assembly.
(2) Remove the spring (a) and the direct gear.

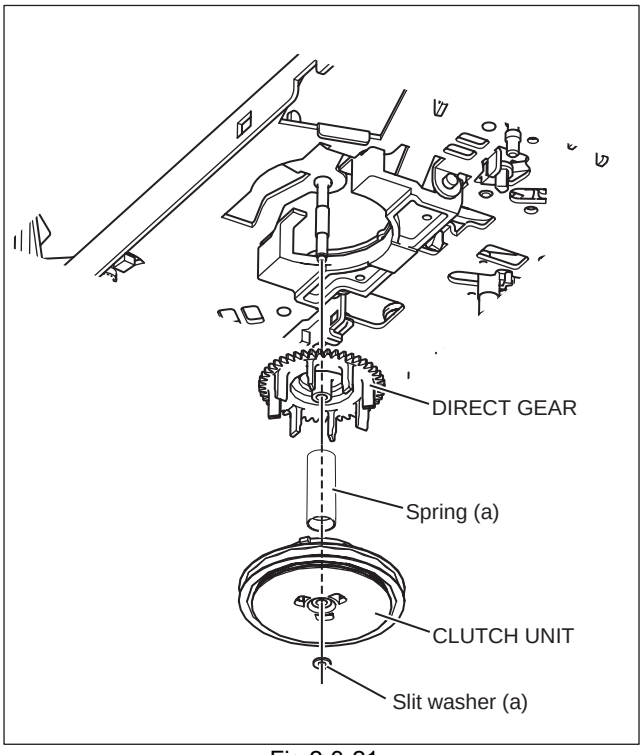
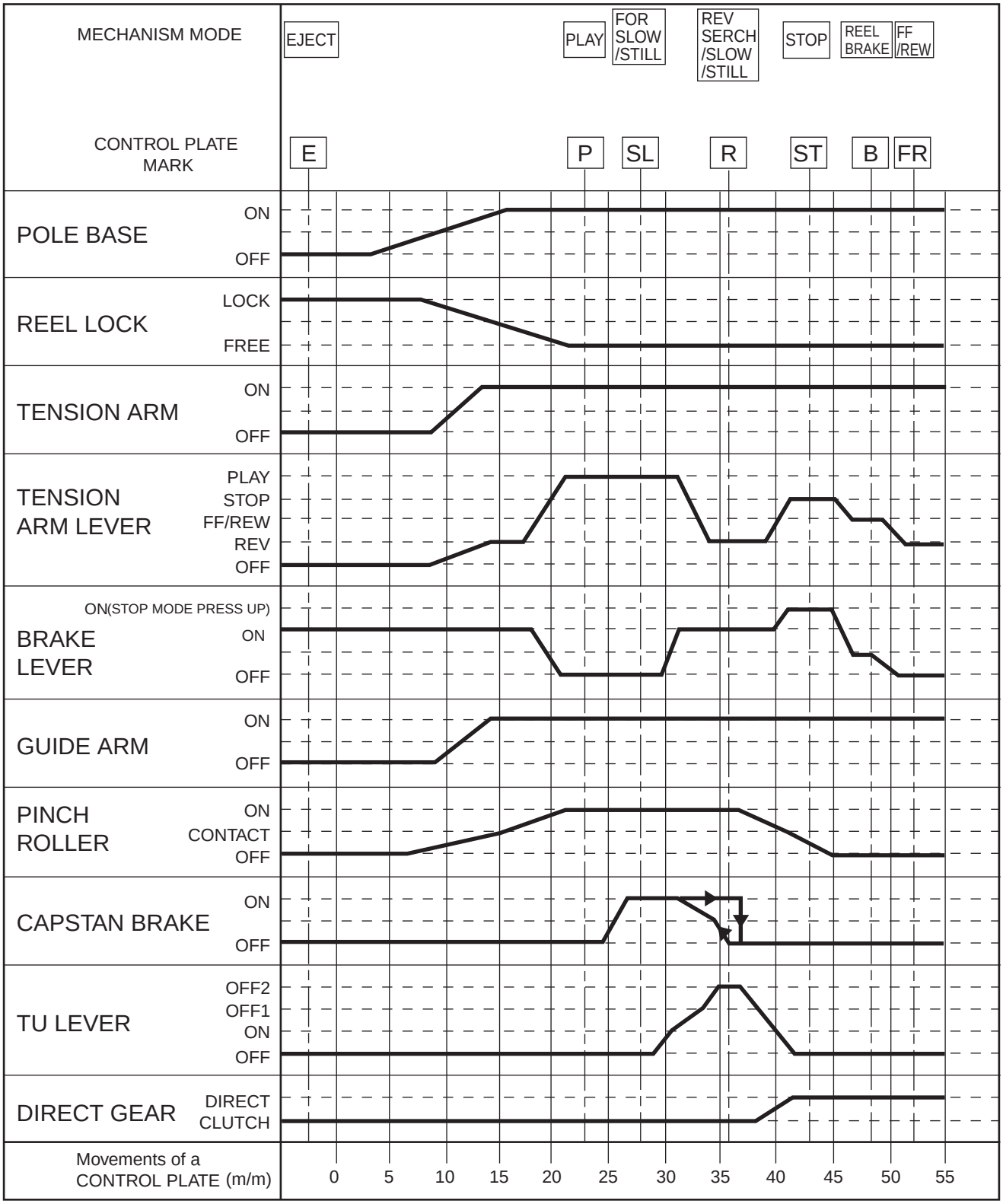


Fig.2-3-21

2.3.7 MECHANISM TIMING CHART



2.3.8 REMARKS

2.3.8.1 Cleaning

(1) For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

NOTE:
Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.

(2) For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.

(3) After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.3.8.2 Applying oil and grease

(1) Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.

(2) For parts and points to apply oil and grease, refer to the exploded view of the 3.3 VHS MECHANISM ASSEMBLY. Fig.2-3-22 specifies oil and grease to be used.

(3) When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

specifies oil and grease to be used

Fig.2-3-22

JVC

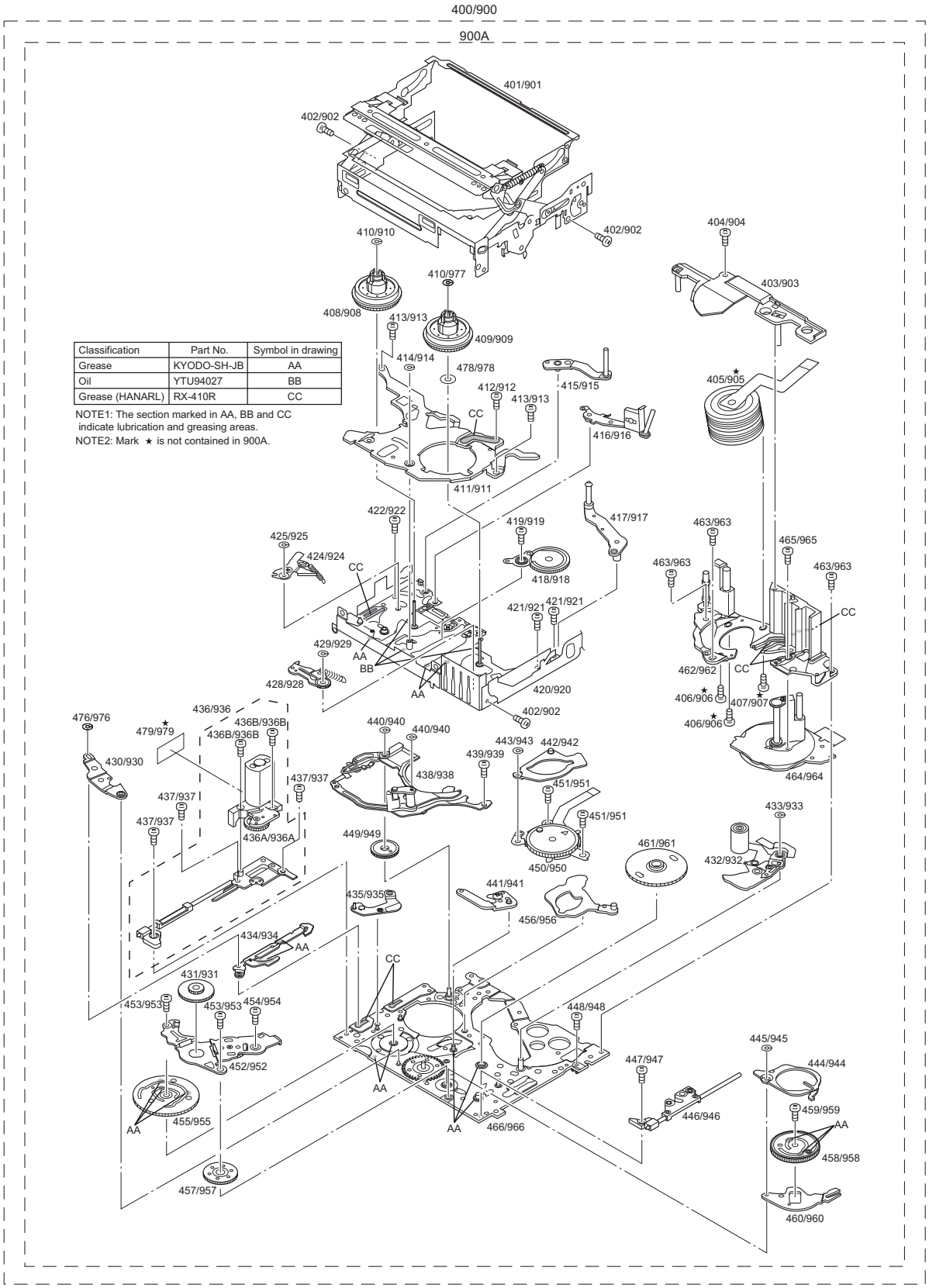
VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY CAMCORDER CATEGORY 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

(No.86700)

Printed in Japan
200304WPC

SECTION 3
PARTS LIST

3.1 DVC MECHANISM ASSEMBLY



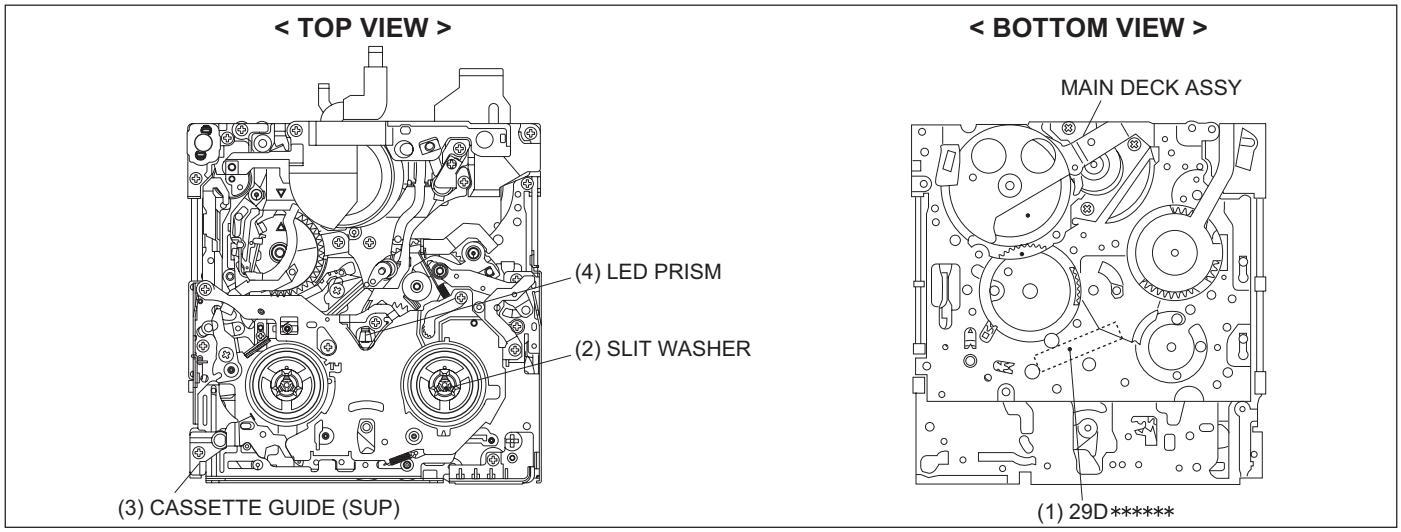
Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB
Grease (HANARL)	RX-410R	CC

NOTE1: The section marked in AA, BB and CC indicate lubrication and greasing areas.
NOTE2: Mark ★ is not contained in 900A.

Fig.3-1-1

3.1.1 DVC MECHANISM ASSEMBLY PART LIST

- Since parts numbers described here are the numbers at the time of manualissue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.
- To distinguish the mechanism assembly with the symbol number of 400-499 from the mechanism assembly with the symbol number of 900-999, see the following procedures.
  (1) See the numbers on the backside of the MAIN DECK ASSY.
  For example, "29D******" is printed on the backside of the mechanism assembly with the symbol number of 900-999 (YMA0029D in this example). See the first three characters and numbers from the left.
  (2) See the color of the SLIT WASHER on the REEL DISK (TU).
  A red slit washer is used (the same color as a slit washer of CASSETTE GUIDE (SUP)) in the mechanism assembly with the symbol number of 400-499. A black slit washer is used in the mechanism assembly with the symbol number of 900-999.
  However, the black slit washer may be changed into a red one for the purpose of parts unification.
  (3) See the color of the CASSETTE GUIDE(SUP).
  Light-brown CASSETTE GUIDE(SUP) is used in the mechanism assembly with the symbol number of 400-499.
  Black CASSETTE GUIDE(SUP) is used in the mechanism assembly with the symbol number of 900-999.
  (4) See the shape of the LED PRISM. LED PRISM consists of only resin in the mechanism assembly with the symbol number of 400-499.
  Upper part of the LED PRISM is covered with black metal in the mechanism assembly with the symbol number of 900-999.



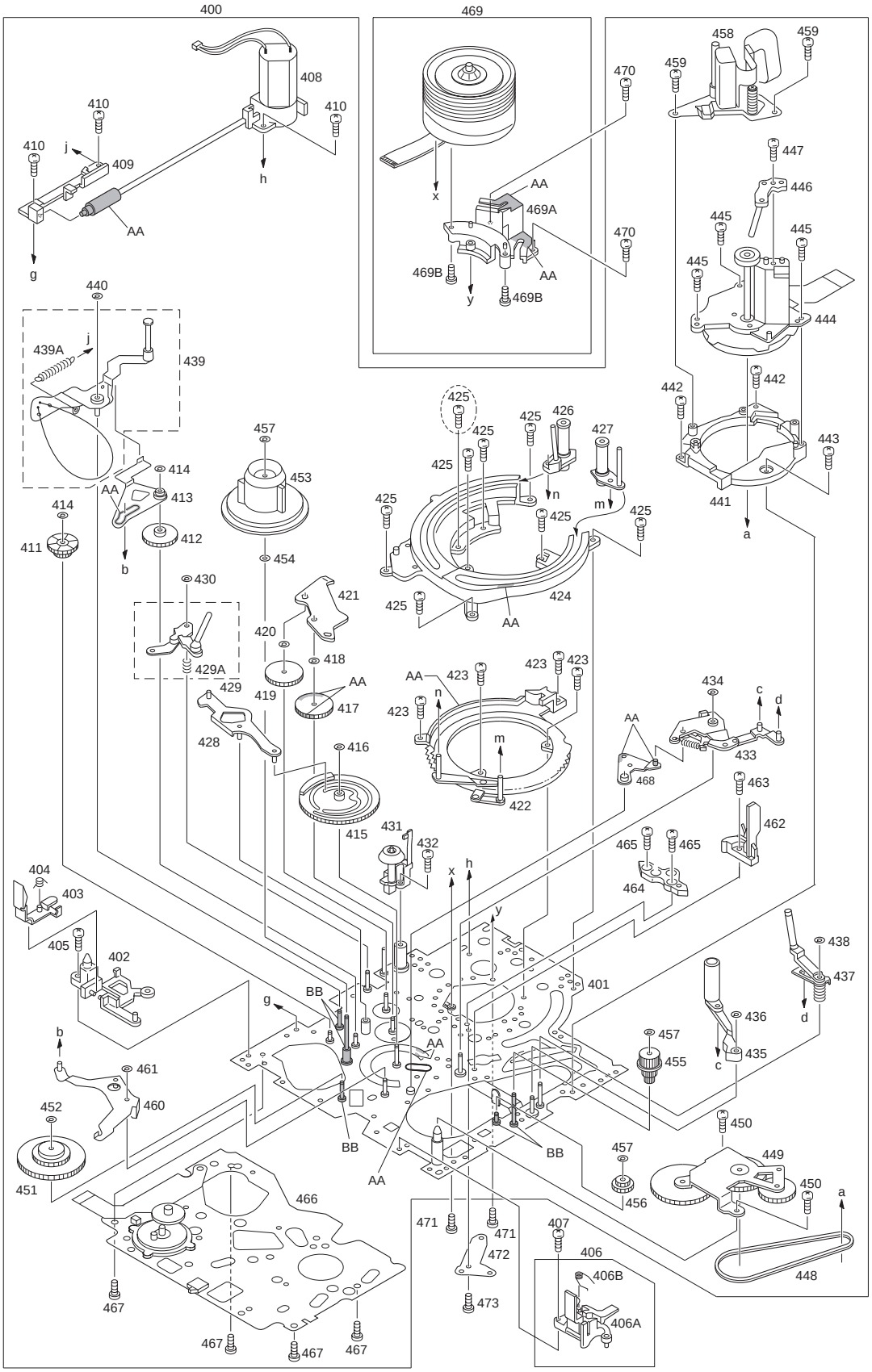
Part Name	Symbol No.	Part No.	Part No.	Part No.	Symbol No.	Part No.	Patr No.
MECHA(A) ASSY	400	YMA0029C	YMA0029M	YMA0029L	900	YMA0029H	YMA0029E
MECHA(A)ASSY	-	-	-	-	900A	YMA0029D	-
CASSETTE HOUSING ASSY	401	LY31543-002E*	LY31543-002H	←	901	LY32870-001G*	LY32870-001J
MINI SCREW,X3	402	YQ43893-8	←	←	902	←	←
UPPER BASE ASSY	403	LY31542-001J	←	←	903	LYH30420-001A	←
MINI SCREW	404	YQ43893*	QYSPSPU1425M	←	904	←	←
DRUM ASSY	405	**	**	**	905	**	**
DAMP.SCREW ASSY,X2	406	LY42820-001A	←	←	906	←	←
DAMP.SCREW ASSY	407	LY42820-002A	←	←	907	←	←
REEL DISK ASSY (SUP)	408	LY31538-001B*	LY31538-001F	←	908	←	←
REEL DISK ASSY (TU)	409	LY31538-002B*	LY31538-002H	LY31538-002G	909	LY31538-002H	←
SLIT WASHER,X2 or X1	410	YQ44246,(x2)	←,(x2)	←,(x2)	910	←*,(x1)	←,(x2)
REEL COVER ASSY	411	LY10217-001A*	LY10217-001F	←	911	LY10372-001D	←
MINI SCREW	412	LY42120-001A*	LY42120-002A	←	912	←	←
MINI SCREW,X2	413	LY41945-003A	←	←	913	←	←
SLIT WASHER	414	YQ44246	←	←	914	←	←
TENSION ARM ASSY	415	LY42025-001C	←	←	915	LY43725-001D	←
SLANT POLE ARM ASSY	416	LY31535-001F	←	←	916	LYH40269-001A	←
TU ARM ASSY	417	LY42031-001G*	LY42031-001K	←	917	LY43731-001F	←
SWING ARM ASSY	418	LY31531-001D	←	←	918	←	←
MINI SCREW	419	YQ43893	←	←	919	←	←
SLIDE DECK FINAL ASSY	420	LY20530-003B*	LY20530-003E	←	920	LYH30424-001A	←

Part Name	Symbol No.	Part No.	Part No.	Part No.	Symbol No.	Part No.	Patr No.
MINI SCREW,X2	421	YQ43893	←	←	921	←	←
MINI SCREW	422	LY43023-001A	←	←	922	←	←
PAD ARM ASSY	424	LY31533-001E	←	←	924	LYH30419-001A	←
SLIT WASHER	425	YQ44246	←	←	925	←	←
TU BRAKE ASSY	428	LY42016-001B	←	←	928	LYH40270-001A	←
SLIT WASHER	429	YQ44246	←	←	929	←	←
TENSION CONTROL LEVER ASSY	430	LY41959-001B	←	←	930	LY43684-001A	←
CENTER GEAR	431	LY31525-001B	←	←	931	LY32861-001A	←
PINCH ROLLER ARM FINAL ASSY	432	LY31516-001E	←	LY31516-001F	932	←	←
SLIT WASHER	433	YQ44246	←	←	933	←	←
TENSION CONTROL PLATE ASSY	434	LY41956-001C	←	←	934	LY43681-001A	←
BRAKE CONTROL LEVER ASSY	435	LY41962-001B*	LY41962-001C	←	935	LY43687-001A	←
MOTOR BRACKET ASSY	436	LY20525-002C	←	←	936	LYH30421-001A	←
LOADING MOTOR	436A	QAR0138-001	←	←	936A	←	←
TAPPING SCREW,x2	436B	LY41940-001A	←	←	936B	←	←
MINI SCREW,x3	437	YQ43893	←	←	937	←	←
GUIDE RAIL ASSY	438	LY20528-001R*	LY20528-001U	←	938	LYH30422-001A	←
MINI SCREW	439	YQ43893	←	←	939	←	←
SLIT WASHER,X2	440	YQ44246	←	←	940	←	←
SLIDE LEVER2 ASSY	441	LY31498-001C	←	LY31498-001D	941	LY32843-001A	←
LOADING PLATE ASSY	442	LY41965-001A	←	←	942	LY43690-001A	←
SLIT WASHER	443	YQ44246	←	←	943	←	←
EJECT LEVER	444	LY31522-001B	←	←	944	LY32858-001A	←
SLIT WASHER	445	YQ44246	←	←	945	←	←
BASE R ASSY	446	LY41929-001E*	LY41929-001F	←	946	LYH40271-001A	←
MINI SCREW	447	YQ43893	←	←	947	←	←
MINI SCREW	448	LY41945-001B	←	←	948	←	←
MODE GEAR	449	LY41930-001A	←	←	949	LY43665-001A	←
ROTARY ENCODER	450	QSW0876-003	←	←	950	←	←
MINI SCREW,X2	451	YQ43893	←	←	951	←	←
GEAR COVER ASSY	452	LY31524-001A	←	←	952	LY32860-001A	←
MINI SCREW,X2	453	YQ43893	←	←	953	←	←
MINI SCREW	454	YQ43893-4	←	←	954	←	←
MAIN CAM ASSY	455	LY41948-001C	←	←	955	LY43676-001A	←
SLIDE ARM ASSY	456	LY41941-001B	←	←	956	←	←
CONNECT GEAR 2	457	LY41951-001B	←	←	957	LY43678-001A	←
SUB CAM ASSY	458	LY41954-001B	←	LY41954-001E	958	←	←
MINI SCREW	459	LY42120-001A	←	←	959	←	←
CONTROL ARM ASSY	460	LY41952-001A	←	←	960	LY43692-001A	←
REEL GEAR 1	461	LY31523-001B	←	←	961	LY32859-001A	←
DRUM BASE ASSY	462	LY31508-002A*	LY31508-002B	LY33372-001A	962	LY31508-002B	←
SCREW,X3	463	QYSPSPU1425M	←	←	963	←	←
CAPSTAN MOTOR	464	QAR0142-001	←	←	964	←	←
MINI SCREW	465	YQ43893	←	←	965	←	←
MAIN DECK ASSY	466	LY10210-001D*	LY10210-001G	←	966	LY10367-001D*	LY10367-001E
SLIT WASHER	476	YQ44246	←	←	976	←	←
SLIT WASHER	477	-	-	-	977	YQ44246-6	-
WASHER	478	-	-	-	978	LY42047-005A	←
SPACER	479	-*	LY43987-001B	←	979	←	←

NOTE:

MARK ← is same as left.
MARK - is not used.
MARK * reference model was also changed.
MARK ** shows different parts number, depending on models.

3.2 VHS-C MECHANISM ASSEMBLY



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	YTU94027	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

Fig.3-2-1

3.2.1 VHS-C MECHANISM ASSEMBLY PARTS LIST

- Since parts numbers described here are the numbers at the time of manualissue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.

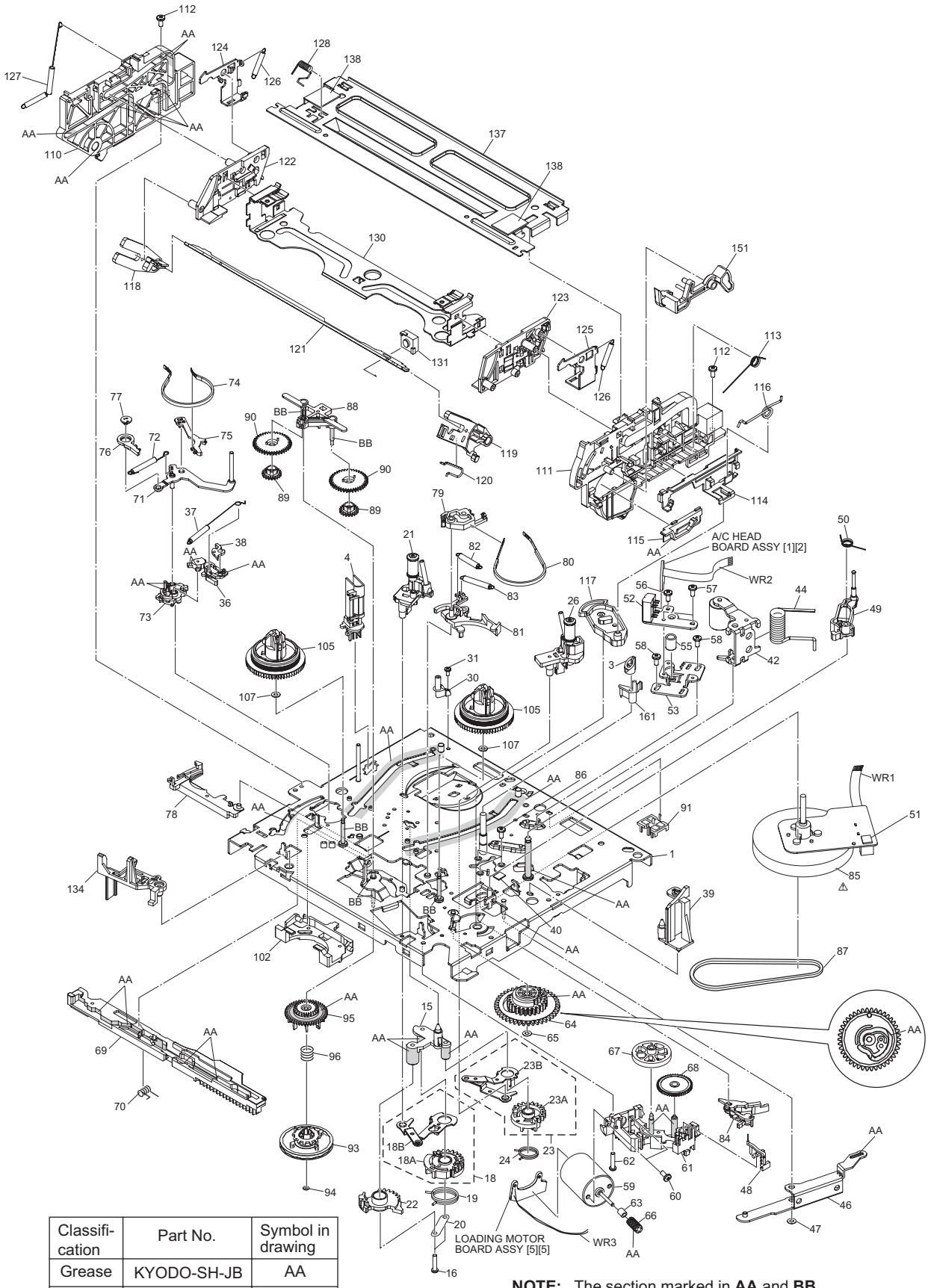
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.	Part No.
MECHA(B) ASSY	400	YMA0033A-E	YMA0042A-E	YMA0034A-E	YMA0036A-E	YMA0040A-E
MAIN DECK ASSY	401	LY20612-001B	←	←	←	←
CASSETTE GUIDE (LEFT)	402	LY31817-001A	←	←	←	←
SW LEVER (LEFT)	403	LY31815-001A	←	←	←	←
TORSION SPRING	404	LY42581-001A	←	←	←	←
SCREW	405	LY42722-001A	←	←	←	←
CASSETTE GUIDE ASSY(RIGHT)	406	-	-	YQ44339A-7	←	←
SW.LEVER(RIGHT)	406A	-	-	YQ32162-1-3	←	←
TORSION SPRING	406B	-	-	YQ44340-1-4	←	←
SCREW	407	-	-	LY42819-001A	←	←
MOTOR BRACKET ASSY	408	LY31826-001A	←	←	←	←
WORM BRACKET	409	YQ20793	LY20951-001A	YQ20793	←	LY20951-001A
SCREW,X3	410	LY42722-001A	←	←	←	←
WHEEL GEAR	411	LY31925-001A	←	←	←	←
MIDDLE GEAR	412	LY42730-001A	←	←	←	←
CANCEL LEVER ASSY	413	LY42521-001A	←	←	←	←
SLIT WASHER,X2	414	LY42754-003A	←	←	←	←
CONTROL CAM	415	YQ20827-2-1	←	←	←	←
SLIT WASHER	416	PQM30017-25	←	←	←	←
LOADING GEAR(T)ASSY	417	LY42733-001A	←	←	←	←
SLIT WASHER	418	LY42754-003A	←	←	←	←
LOADING GEAR(S)ASSY	419	LY42732-001A	←	←	←	←
SLIT WASHER	420	LY42754-003A	←	←	←	←
COVER PLATE	421	LY42403-001A	←	←	←	←
LOADING RING ASSY	422	LY42452-001A	←	←	←	←
SCREW,X4	423	LY42728-001A	←	←	←	←
GUIDE RAIL	424	LY10239-001A	←	←	←	←
SCREW,X8 or X7	425	LY42728-001A,(X8)	←,(X7)	←,(X8)	←,(X8)	←,(X7)
POLE BASE(S)ASSY	426	LY30161-001B	←	←	←	←
POLE BASE(T)ASSY	427	LY30162-002A	←	←	←	←
DRIVE LEVER ASSY	428	LY42523-001A	←	←	←	←
SLANT ARM ASSY	429	LY42545-001B	LY44000-001B	LY42545-001B	←	LY44000-001B
TORSION SPRING(S)	429A	LY42547-001A	LY43992-001A	LY42547-001A	←	LY43992-001A
SLIT WASHER	430	LY42754-003A	←	←	←	←
ROLLER BASE ASSY	431	LY42739-003A	←	←	←	←
SCREW	432	LY42722-001A	←	←	←	←
LINK ARM ASSY	433	LY42494-001A	←	←	←	←
SLIT WASHER	434	PQM30017-25	←	←	←	←
PINCH ROLLER ARM ASSY	435	LY40018-002A	←	←	LY40018-005A	←
SLIT WASHER	436	PQM30017-25	←	←	←	←
TAKE UP GUIDE ARM ASSY	437	LY42541-001B	←	←	←	←
SLIT WASHER	438	LY42754-003A	←	←	←	←
TENSION ARM ASSY	439	LY42571-001A	←	←	←	←
TENSION SPRING	439A	LY42669-001A	←	←	←	←
SLIT WASHER	440	LY42754-003A	←	←	←	←
MOTOR BASE	441	YQ20797-1-5	←	←	←	←
SCREW,X2	442	LY42722-001A	←	←	←	←
SCREW	443	YQ44460	←	←	←	←
CAPSTAN MOTOR	444	QAR0212-001	QAR0212-002	QAR0212-001	QAR0212-002	←
TAPPING SCREW,X3	445	YQ44304	←	←	←	←
SLANT POLE BASE ASSY	446	LY42731-001A	←	←	←	←
TAPPING SCREW	447	YQ44304	←	←	←	←
TIMING BELT	448	YQ43710-2	←	←	←	←
CENTER PULLEY UNIT	449	LY42678-001A	←	←	←	LY42678-003A

Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.	Part No.
SCREW,X2	450	LY42722-002A	←	←	←	←
SUPPLY CLUTCH ASSY	451	LY42670-001A	←	←	←	←
SLIT WASHER	452	LY42754-003A	←	←	←	←
REEL DISC	453	YQ31861-1-7	←	←	←	←
WASHER	454	LY42755-001A	←	←	←	←
TAKE UP GEAR	455	LY31924-001A	←	←	←	←
BRAKE SUB GEAR	456	LY42738-001A	←	←	←	←
SLIT WASHER,X3	457	LY42754-003A	←	←	←	←
A/C HEAD UNIT	458	LY42544-001B	LY42544-002A	LY42544-001B	←	LY42544-002A
SCREW,X2	459	SPSN1750Z	←	←	←	←
EJECT LEVER ASSY	460	LY42517-001A	←	←	←	←
SLIT WASHER	461	LY42754-003A	←	←	←	←
LED GUIDE	462	YQ31833-1-1	←	←	←	←
SCREW	463	LY42722-001A	←	←	←	←
DRUM SPACER	464	LY42729-001A	←	←	←	←
SCREW,X2	465	LY42722-001A	←	←	←	←
ROTARY ENCODER	466	QSW0888-001	←	QSW0888-002	←	←
SCREW,X4	467	LY42722-002A	←	←	←	←
LINK LEVER	468	LY31814-001A	←	←	←	←
DRUM FINAL ASSY	469	**	**	**	**	**
CATCHER	469A	YDM1003-1-5	←	←	←	←
SCREW,X2	469B	QYSPSPU1735M	←	←	←	←
SCREW,X2	470	LY42722-001A	←	←	←	←
SCREW,X2	471	SPSH1740Z	←	←	←	←
BRUSH	472	LY43542-001A	←	←	←	←
SCREW	473	LY42722-003A	←	←	←	←
CASSETTE HOUSING FINAL ASSY	*155/481	LY31808-001C	LY31808-002C	LY31808-001C	LY31808-001D	LY31808-002C
SCREW,X4	*156/482	LY42722-003A	←	←	←	←
BRACKET(MECHA)	*161/484	LY32326-001A	←	←	←	←
SCREW,X2	*162/485	LY42722-003A	←	←	←	←
SIDE BRACKET L	*164/487	LY31807-001A	←	←	←	←
SCREW	*165/488	LY42722-003A	←	←	←	←

NOTE:

MARK ← is same as left.
MARK - is not used.
MARK * are shown in the parts list of FINAL ASSY of service manual of each model.
MARK ** shows different parts number, depending on models.

3.3 VHS MECHANISM ASSEMBLY



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

Fig.3-3-1

3.3.1 VHS MECHANISM ASSEMBLY PARTS LIST

- Since parts numbers described here are the numbers at the time of manualissue, they are subject to change without notice. Therefore, be sure to see a parts list in the service manual of each model as for parts numbers.

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
MAIN DECK ASSY	1	LP21039-001N	LP21039-001S	LP21039-001R	LP21039-001S
GUIDE POLE CAP	3	LP40097-002D	←	←	←
FULL ERASE HEAD	4	QAH0082-001	←	←	←
LOAD.GEAR BASE	15	LP30958-001B	←	←	←
SCREW,X2	16	QYTPST2620Z	←	←	←
LORD.GEAR(SUPPLY) ASSY	18	LP40798-001A	←	←	←
LORD.GEAR(SUPPLY)	18A	LP21040-001A	←	←	←
LORD.ARM(SUPPLY) ASSY	18B	LP40799-001A	←	←	←
TORSION SPRING(SUPPLY)	19	LP40837-001A	←	←	←
FIXING PLATE	20	LP40903-001A	←	←	←
POLE BASE ASSY(SUPPLY)	21	LP40806-001D	←	←	←
LOAD GEAR	22	LP30959-002A	←	←	←
LORD. GEAR(TAKE UP) ASSY	23	LP40802-001B	LP40802-001C	LP40802-001B	LP40802-001C
LORD. GEAR(TAKE UP)	23A	LP21041-001B	LP21041-001C	LP21041-001B	LP21041-001C
LORD.ARM(TAKE UP) ASSY	23B	LP40803-001A	←	←	←
TORSION SPRING(TAKE UP)	24	LP40838-001A	←	←	←
POLE BASE ASSY(TAKE UP)	26	LP40808-001F	LP40808-001E	←	←
ARM BASE	30	-	←	LP31020-004A	←
SCREW	31	-	←	QYTDST2606Z	-
TU LEVER	36	LP21055-001E	←	←	←
TENSION SPRING	37	LP40943-001A	←	←	←
T-UP HEAD	38	LP40859-001D	←	←	←
LID GUIDE	39	LP30961-001C	←	←	←
SPACER	40	LP30002-0B7A	←	←	-
PINCH ROLLER ARM ASSY	42	LP40810-001A	←	←	←
TORSION SPRING	44	LP40840-001C	LP40840-001D	←	←
PRESS LEVER	46	LP30963-001B	←	←	←
SLIT WASHER	47	PQM30017-24	←	←	←
S-SWITCH	48	-	←	LP40930-002E	←
GIDE ARM ASSY	49	LP40813-001D	←	←	←
TORSION SPRING	50	LP40841-001A	←	←	←
SPACER	51	LP30002-090A	←	←	-
A/C HEAD	52	QAH0081-001	←	←	←
HEAD BASE	53	LP30965-001A	←	←	←
COMPRESSION SPRING	55	LP40842-001A	LP40842-001D	LP40842-001A	LP40842-001D
SCREWX1 A/C HEAD	*56	QYTDST2006M	←	←	←
A/C HEAD SCREW,X2	*57	LP41036-001A	←	←	←
SCREW,X2 A/C HEAD	*58	QYTDST2606Z	←	←	←
LOADING MOTOR	59	QAR0023-001	←	←	←
SCREW,X2	60	QYTPSP3003Z	←	←	←
MOTOR BRACKET	61	LP21056-002F	LP21056-002G	←	←
TAP SCREW	62	QYTPST2620Z	←	←	←
WORM BEARING	63	LP40814-001B	←	←	←
CONTROL CAM	64	LP21044-001D	←	←	←
SLIT WASHER	65	PQM30017-24	←	←	←
WORM GEAR	66	LP40815-001A	←	←	←
HELICAL GEAR	67	LP40816-001B	←	←	←
CONNECT GEAR	68	LP40817-001A	←	←	←

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
CONTROL PLATE	69	LP10400-001H	←	←	LP10400-001J
TORTION SPRING	70	LP40843-001A	←	←	←
TENSION ARM ASSY	71	LP40818-001B	←	←	←
TENSION SPRING	72	LP40844-001C	LP40844-001E	LP40844-001D	LP40844-001E
TENSION ARM BASE	73	LP21045-001D	←	←	←
TENSION BAND ASSY	74	LP40821-001A	←	←	←
BAND HOLDER-1	75	LP30967-001B	←	←	←
BAND HOLDER-2	76	LP30968-001C	←	←	←
ADJUST PIN	77	LP40822-002B	←	←	←
TENSION ARM LEVER	78	LP31000-005E	←	←	←
MAIN BRAKE(TAKE UP)	79	LP21046-001C	←	←	←
BAND BRAKE ASSY	80	LP40824-001A	←	←	←
BRAKE LEVER	81	LP30969-002A	LP30969-002B	LP30969-002A	LP30969-002B
TENSION SPRING	82	LP30003-033B	←	←	←
TENSION SPRING	83	LP30003-035B	←	←	←
CAPSTAN BRAKE ASSY	84	LP40825-001B	←	←	←
CAPSTAN MOTOR	85	QAR0204-002	←	←	←
SCREW,X3 CAPSTAN MOTOR	86	QYTPSG2606M	QYTPSG2606Z	QYTPSG2606M	QYTPSG2606Z
BELTCAPSTAN MOTOR	87	LP30005-010A	←	←	←
IDLER ARM	88	LP30970-001A	←	←	←
IDLER GEAR 1,X2	89	LP40828-004A	←	←	←
IDLER GEAR 2,X2	90	LP40829-001B	LP40829-002A	LP40829-001B	LP40829-002A
WIRE HOLDER	91	LP31014-001A	←	←	←
CLUTCH UNIT	93	LP40934-001B	←	←	←
SLIT WASHER	94	PQM30017-47	←	←	←
DIRECT GEAR	95	LP30973-001A	←	←	←
COMPRESS. SPRING	96	LP40939-001A	←	←	←
CHANGE LEVER	102	LP30974-001B	←	←	←
REEL DISK,X2	105	LP21049-001A	←	←	←
SPACER,X2	107	LP30017-004A	←	←	←
SIDE FRAME(L)	110	LP10401-001F	LP10401-001H	LP10401-001F	LP10401-001H
SIDE FRAME(R)	111	LP10402-001F	LP10402-001K	LP10402-001G	LP10402-001K
SCREW,X2	112	QYTDST2606Z	←	←	←
TORSION SPRING	113	LP40917-001C	LP40917-001D	←	←
SIDE PLATE	114	LP30976-001D	LP30976-001E	←	←
LIMIT PLATE	115	LP30977-002D	←	←	←
LIMIT SPRING	116	LP40846-001C	←	←	←
DRIVE LEVER	117	LP31100-001B	←	←	←
DRIVE ARM(L)	118	LP30978-001B	←	←	←
DRIVE ARM(R)	119	LP30979-001H	LP30979-001N	LP30979-001H	LP30979-001N
TORSION SPRING	120	LP40847-001B	←	←	←
CONNECT PLATE	121	LP30980-001A	LP30980-001E	LP30980-001B	LP30980-001E
SIDE HOLDER(L)	122	LP10403-001C	←	←	←
SIDE HOLDER(R)	123	LP10404-001D	LP10404-001E	←	←
LOCK LEVER(L)	124	LP30983-001A	LP30983-001B	LP30983-001A	LP30983-001B
LOCK LEVER(R)	125	LP30984-001A	LP30984-001B	LP30984-001A	LP30984-001B
TENSION SPRING,X2	126	LP40924-001C	LP40924-001D	←	←
EARTH SPRING(1)	127	LP40856-001A	←	LP40856-001B	LP40972-001A
EARTH SPRING(2)	128	LP40857-001B	←	←	←
C.HOLDER ASSY	130	LP30981-001E	LP30981-001G	LP30981-001F	LP30981-001G
C.H STOPPER	131	LP31135-001A	-	LP31135-001A	-

System		VHS		S-VHS	
**Job No.		V15D Series	V16D Series	V15S Series	V16S Series
Part Name	Symbol No.	Part No.	Part No.	Part No.	Part No.
R.SAFETY LEVER	134	LP21051-002C	←	←	←
TOP FRAME	137	LP21052-001F	LP21052-001J	LP21052-001H	LP21052-001J
SPACER	138	LP30002-0A7A	-	LP30002-0A7A	-
DOOR OPENER	151	LP30985-001G	←	←	←
TAPE GUIDE	161	-	LP40993-001A	-	LP40993-001A
E-CARD WIRE DRUM.M	WR1	WJT0059-001C	WJT0059-001E	WJT0059-001D	WJT0059-001E
E-CARD WIRE AC HEAD CN2001	WR2	WJT0067-001B	←	←	←
E-FL/RB WIRE LOADING MOTOR	WR3	WJS0022-001A	←	←	←
MEMO	-	PMD0035B-C	PMD0040A-C	PMD0036B-C /PMD0039A-C	PMD0037A-C /PMD0041A-C

NOTE:

MARK ← is same as left.
MARK - is not used.
MARK * shows that Symbol No. and Parts No. may sometimes be different from those in each manual. See the table below for final Symbol No. and Parts No.
MARK ** is Job No.
To identify a model, see the Job No. of the model.
Job No. is shown just above the service manual number at the lower right of the service manual of each model.